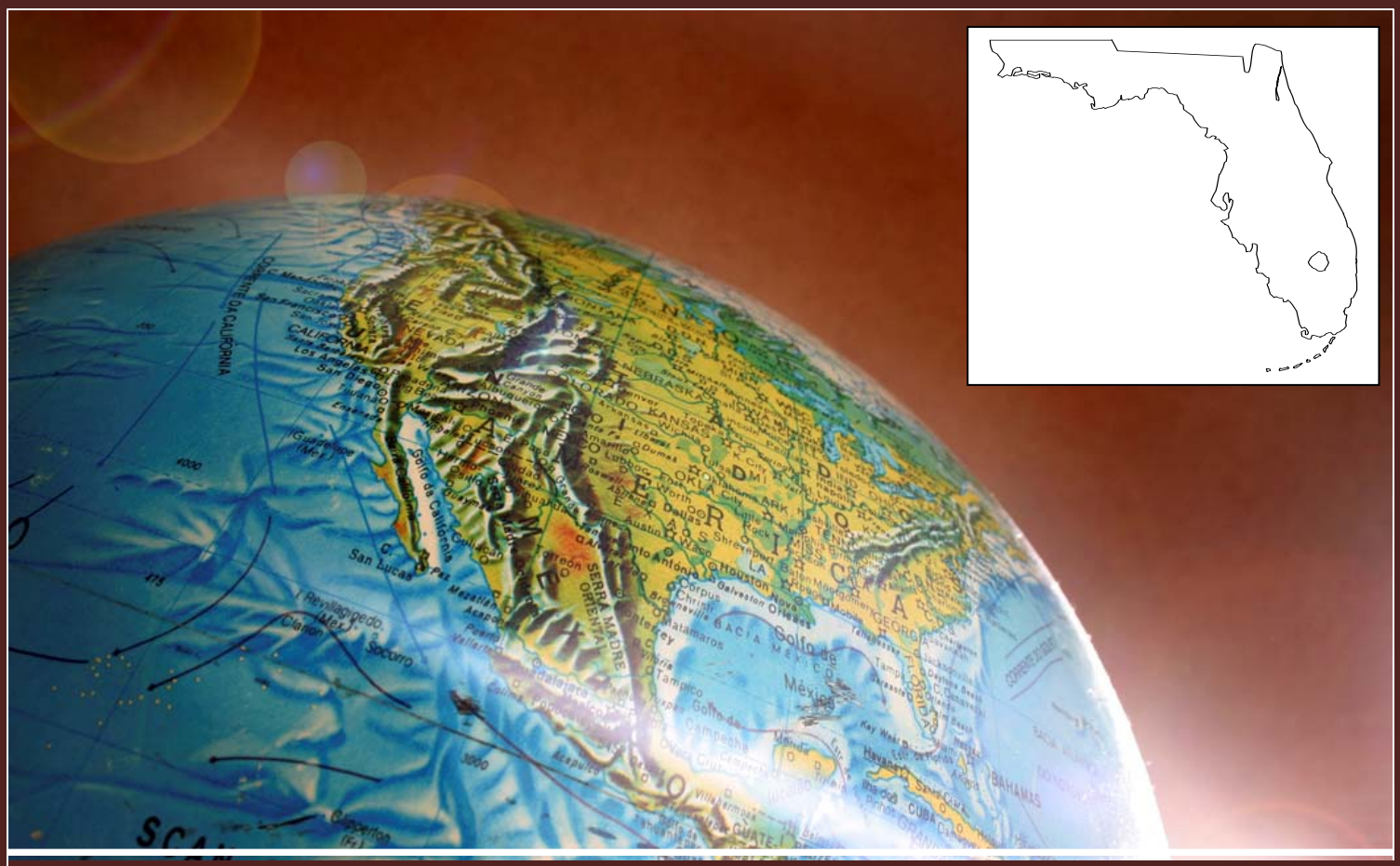


PUBLIC SAFETY 700 MHz
RADIO COMMUNICATIONS PLAN

Region 9
Date of Plan Approval , January 30, 2008

Amendment Dates: March 28, 2008
June 24, 2012
March 7, 2014
October 30, 2015

Raymond H. Carlson, Chairman
3350 Gun Club Road, West Palm Beach, FL. 33407
(561) 688-3514
E-Mail: carlsonr@pbso.org

Introduction

This is the second major planning thrust for Region 9. The first was to meet the Federal Communications Commission (FCC) requirements for the NPSPAC spectrum. This planning thrust was precipitated by the establishment of the 700 MHz public safety band.

The FCC announced the allocation of 24 MHz in the 700 MHz radio spectrum subsequent to the Public Safety Wireless Advisory Committee (PSWAC) report that established need requirements throughout the country. Interoperability within and among public safety and public service providers was identified in the PSWAC report as a basic minimum essential requirement.

Subsequent to the PSWAC the FCC established a Federal Advisory Committee called the National Coordination Committee (NCC). The NCC was created to address interoperability, technology, and implementation issues to be considered for the 700 MHz spectrum. The FCC required that a Regional Plan outlining the use of public safety radio frequencies be complete and approved of by the FCC before any agency within a region would receive channels from this new allocation. The Region 9Plan conforms to the NCC planning guidelines. The Region 9 Plan committee's membership represents a cross-section of public safety and public service users. A Region Planning Committee membership list is contained in Appendix (B).

Purpose

The purpose of the Regional Plan is to insure that maximum public benefit is derived from use of the 700 MHz spectrum by eligible agencies. Further, the plan was developed to guide eligible entities through the application process and provide an equitable means of settling disputes concerning frequency allocations should they arise.

Regional Plan Summary

Region 9 is defined as the entire State of Florida. The broad classifications of entities eligible to apply for spectrum are defined in accord with NCC definitions. Next, to garner their participation in and support of the planning process, an attempt was made to contact all eligible agencies. These attempts are documented. The authority by which the Regional Planning Committee undertook these planning efforts is reviewed. A discussion follows of the process by which the initial spectrum allocation was made. Finally, a detailed discussion of the application process is given. This includes guidelines for spectrum use, application requirements, the application review process and dispute resolution. Also included is a discussion of the future planning process.

The Region 9 Committee accepts the Computer Assisted Pre-Coordination Resource and Database (CAPRAD) database initial allocation based on population density and call volume by county. It has been noted by the committee that this allocation closely matches the description of Designated Statistical Areas by the US Department of Management and Budget Bulletin. The Committee will use the CAPRAD database when allocating frequency resources in Region 9.

Interoperability guidelines and usage must be in accordance with the requirements of the Florida State Interoperability Executive Committee (FSIEC). For clarity the FSIEC shall be referred to as the SEIC hereafter in this document. Any conflict between the interoperability rules for National Calling and Tactical channels in this plan and SIEC guidelines, the SIEC guidelines will prevail.

3.0 Regional Planning Committee Membership

3.1 Membership, Meetings and Voting procedures

The RPC shall have two classes of members: 'voting' and 'non-voting.' Voting members shall consist of one representative from any agency engaged in public safety activities eligible to hold a radio license under USC 47 CFR 90.20, 47 CFR 90.523, or 47 CFR 2.103 and holds a unique FCC Universal

Licensing System (ULS) identifier. An agency shall be allowed one vote for each distinct ULS within the agency's political organization or jurisdiction. Voting members may not vote on issues involving their entity or agency's political organization or jurisdiction.

Non-voting members are all others seeking membership and interested in furthering the goals of public safety communications and who's entity is not eligible to hold a license under USC 47 CFR 90.20, 47 CFR 90.523, or 47 CFR 2.103.

Representatives, full or part-time, of Commercial Communications related Companies, Manufactures, Consultants, Engineering Companies, Radio Service Companies or other non-governmental, non-eligible public safety license holders will not be considered as voting members nor will be eligible to represent the Region as an official representative of the Region and will not be listed or provided any management authorization within any official websites or processing platform utilized for Region business. Commercial representatives may participate in region public meetings and provide advisory information as request by the Region Chairperson and/or Executive Board by vote.

New members may be added by application. Application forms are available from the RPC Chairman. Membership shall be granted upon approval of application until resignation or removal.

In addition to any powers and rights as are vested in them by law or these bylaws, the members shall have such other powers and rights as membership may determine.

a. A member may be suspended or removed with cause by vote of a majority of members after reasonable notice and opportunity to be heard.

b. A member may resign by written notice to the Chairperson.

c. The annual meeting of the members shall be set by the Chairperson and shall be held in Region 9 in a central location that will provide the maximum opportunity for regional participation.

d. Regular meetings of the RPC may be called by the Chairperson or the Vice-Chairperson annually or upon written application of two or more members.

e. Reasonable notice of time and place of RPC meetings shall be given each member. Such notice need not specify the purpose of the meeting unless there is to be considered at the meeting (i) amendment to these by-laws or (ii) removal or suspension of an officer.

It shall be reasonable and sufficient to notify members of the time and place of RPC meetings at least ninety (90) days prior to a meeting at the usual or last known business address on record with the RPC board. Meeting notifications will be accomplished according to NCC instructions and requirements.

Members shall keep the Chairman informed of their most current address/telephone information (including e-mail) so they may be kept properly informed of committee activities.

a. At any meeting of the RPC members, 20 percent of the voting members of record shall constitute a quorum.

b. Each voting member shall have one vote so long as a quorum is present. A simple majority of votes cast shall decide any issue

except DISSOLUTION.

Regional Chairperson Raymond H. Carlson
Palm Beach County Sheriff's Office
3228 Gun Club Road, West Palm Beach, FL. 33407
W: 561-688-3514, C: 561-644-2074
Email: carlsonr@pbso.org

Regional Vice-Chairperson Gary Gray
City of Ft. Lauderdale Police Department
100 N. Andrews Ave., Ft. Lauderdale, FL 33301
W: 954-828-5762
Email: GGray@fortlauderdale.gov

Sub-Region 1 Chairman Carl Fortner III
Bay County Sheriff's Office
3421 N. Highway 77, Panama City, FL 32405
Email: rfortner@bayso.org

Sub-Region 2 Chairman Billy Fair
Leon County Sheriff's Office
PO Box 727, Tallahassee, FL 32302
850-922-3300
Email: fairw@leoncountyfl.gov

Sub-Region 3 Chairman Lee Mathis
St. Johns County,
4425 Ave A, St. Augustine, FL 32095
904-209-1789
Email: lmathis@sjcfl.us

Sub-Region 4 Chairman Jason Mathews
Lake County Sheriff's Office
360 W. Ruby St., Tavares, FL 32778
352-742-4093
Email: Jason@lcso.org

Sub-Region 5 Chairman Ben Holycross
Polk County Emergency Management
2202 Bartow Municipal Airport, Bartow, FL 33830
863-519-7381
Email: benholycross@polkfl.com

Sub-Region 6 Chairman Andrew Stadtler
Lee County Emergency Management
2665 Ortiz Ave, Fort Myers, FL 33905
239-533-3617
Email: Astadtler@leegov.com

Sub-region 7 Chairman Richard Jenkins
Martin County Government
6000 S.E. Tower Drive, Stuart, FL 34997
772-463-3257
Email: rjenkins@martin.fl.us

Sub-Region 8 Chairman Carlton Wells
Bureau of Public Safety, State of Florida

4030 Esplanade Way, #135, Tallahassee, FL. 32399
850-922-7426
Email: carlton.wells@dms.myflorida.com

As outlined in the RPC bylaws, from time to time, as described in the RPC By-Laws (Appendix "A"), these positions are non-expiring. At any such time that one of these ten positions changes, the Chair will be responsible for taking the following actions:

- Providing notice to the FCC of the changes
- Providing notice to the NRPC of the changes
- Modifying the Region 9 web site (http://www.dms.myflorida.com/media/cits_media/ent_public_sfty_media/public_sfty_radio_media/comm_plan_media/radio_communication_plans) to reflect the changes.

Such changes will not be considered Plan modifications, and will not require that this document be reissued to the FCC for public notice and comment cycles

4.0 Regional Profile

Region 9 encompasses the entire State of Florida.
The Florida terrain is flat and sub-tropical in the south to pine woods and rolling hills in the north. Elevations range from sea level to less than 300 feet naturally. 80% of the population is concentrated in the Miami-West Palm Beach corridor, and the Tampa-Orlando-Jacksonville corridor.

Summary Demographic State Data (and Source)

Population (2004 Census Bureau estimate):	17,397,161
Population (2000 Census):	15,982,378
Foreign-Born Population (2003 CB estimate):	2,995,400
Foreign-Born Population (2000 Census):	2,670,828
Share Foreign-Born (2003):	17.6%
Share Foreign-Born (2000):	16.7%
Immigrant Stock* (2000 CB estimate):	4,637,000
Share Immigrant Stock (2000 estimate): *defined by the U.S. Census Bureau as immigrants and first generation children of immigrants.	29.0%
Naturalized U.S. Citizens (2000 Census):	1,207,502
Share Naturalized (2000 estimate):	45.2%
Legal Immigrant Admission (INS 1993-2002):	754,692
Refugee Admission (2001 HHS):	16,775
Illegal Alien Population (CIS 2005):	780,000
Projected Population - 2025 [if population growth rates of 1990-2000 continue] (2001 FAIR):	27,100,400

An alphabetical list of the individual counties can be found listed in **Appendix"C"**.

Adjacent Regions:
State of Alabama, Region #1
State of Georgia, Region #10,
State of Mississippi, Region #23

In previous NPSPAC 821 MHz frequency allotments, spectrum amounts disproportionate to population densities were allocated due to differing methodologies used in adjacent NPSPAC Regions and the timing of adjacent regions plan filing and approval. This resulted in a minimum number of channels available for Region 9, particularly in the north east Interstate-95 corridor. In the 700 MHz band, county allotments for both narrowband channels have been developed based on population densities relative to adjacent Regions.

5.0 Notification Process

The notification process for the RPC meetings was primarily accomplished through e-mail. The original meeting included a notice published in the Florida Administrative Weekly, as well as notification to the State SEIC. Subsequent e-mails were distributed to all attendees and re-distributed to e-mail lists of interested persons.

6.0 Regional Plan Administration

6.1 Operations of the Regional Plan Committee

Procedure for Requesting Spectrum Allotments.

The Region 9 Committee Chair will announce to the region that 700 MHz public safety channels are available in the Region and that channels have been assigned to pool allotments to counties within the Region. All available methods will be used to notify public safety entities of channel availability in the Region. All requests will be considered on a first come, first served basis. Region 9 supports the National Coordination Committee Pre-Assignment Rules and Recommendations listed in Appendix F, and will use the guidelines as a template to determine if an application submitted to the Regional Planning Committee meets Regional Planning standards.

It is recommended that applicants familiarize themselves with these recommendations prior to submitting application for Region 9/700MHz public safety implementation.

In general and unless otherwise noted, the Region 9/700Mhz Regional Planning Committee will adhere to the published National Coordination Committee Implementation Guidelines for 700 MHz Public Safety Regional Planning Committees.

The Regional Planning Committee will be the deciding body for application approval and plan interpretation. It must be stressed that the Region 9 Regional Planning Committee supports and promotes multi-agency systems that allow for regional/wide area coverage within the region.

This committee will use Robert's Rules of Order to conduct meetings. All decisions will be by clear consensus vote with each Public Safety Agency having one vote. The meetings are open to all persons and a public input time is given for anyone to express a viewpoint or to have input to the planning.

A minimum of one meeting per year will be held of the full committee. This will be announced and advertised 90 days in advance by the Committee Chair. The usual dates for this meeting will be in conjunction with the State of Florida's APCO Conference.

If the Chair is unable to serve, the Vice Chair will serve as Chair until the next election meeting. If both the Chair and Vice Chair are unable to serve their full terms one or the other should strive to call a special meeting of the Committee to elect replacements. If for some reason, neither the Chair nor the Vice Chair can call the special meeting; the State or any County within the region may call for a special meeting, giving at least 90 days notice, to elect replacements.

6.2 Interoperability with SEIC

Florida has created a State Interoperability Executive Committee (SIEC) to oversee interoperability channels. The Florida SIEC includes the Region 9 Chairman on its committee. The Region 9 Chairperson will serve as liaison with the Florida SIEC and assist in the statewide interoperability planning process.

6.3 Procedure for Requesting Spectrum Allotments

To request channels from Region 9/700 MHz Committee (herafter referred to as the Region or RPC), a full application package must be submitted to the Region or Sub-Region Chairman for processing. The application must include: an FCC Form 601, a short description of the proposed system, a justification for the additional spectrum, an interference prediction using the current version of TIA/EIA TSB 88 guidelines, maps showing all potential interference predicted in the proposed system within a 70-mile radius, antenna profiles and gains and documents indicating agency-funding commitment sufficient to fund the development of the proposed system(s).

The Region may distribute the request to all other agencies within 70-miles of the applicant's jurisdiction for review by those agencies.

> Agencies will need to fully document technical information, sites, tower heights, area of coverage, ERP of transmitter sites, along with any other technical information required for RPC subcommittee review and coordinator review. Agencies are expected to construct systems with maximum signal levels in their coverage area and minimum signal levels in co-channel user's coverage areas. Coverage area in the context of this plan will be defined as the geographical boundaries of agency(s) served by the system plus eight miles. The RPC realizes that radio signals don't stop at political borders. Our attempt is to maximize the use of the frequencies by packing as many users as possible per channel.

Absent a protest within a 30 calendar day period from the initial mailing, the RPC will review and vote on the application.

An agency may protest a proposed system within 30 calendar days of the original distribution. Protests will only be considered if the allocation does not conform to plan criteria or objecting agency or the Chairperson can show harmful interference is likely based on the information submitted by the agency requesting the new allocation. If an agency with pre-licensed/RPC approved co-channel or adjacent channel allocations objects to a proposed allocation due to concerns about potential interference, the objecting agency may request field tests be done to confirm or refute interference potential.

The completion of these field tests will be required for RPC application approval. Any costs associated with field tests or any other requirement to obtain Region 9 plan approval is the responsibility of the agency submitting application to Region 9.

The parties involved must resolve the allocation dispute and notify the Region Chair within 14 calendar days. If the parties involved cannot resolve the allocation dispute within that timeframe, then a special full Committee meeting will be scheduled to consider and vote on the protest. If approved, the application will be submitted through the CAPRAD database to the applicant's chosen FCC-certified frequency coordinator for processing.

If approved, the Region will validate the CAPRAD database and return the application to the applicant who shall forward the approved application to the preferred FCC certified frequency coordinator for processing. This process meets the requirements of Rule 90.176(c).

The CAPRAD database will reflect the approved application and place the channels for the proposed system in "pre-license" status. The applicant must advise the Region in writing when the FCC grants their license and when the "Slow Growth" requirements are met if so licensed.

In general and unless otherwise noted and determined to be in the best interest of the region, the Region 9 Regional Planning Committee will adhere to the published National Coordination Committee Implementation Guidelines for 700 MHz Public Safety Regional Planning Committees, when applicable.

Lower Power "Campus Eligible" General Use Channels:

In the implementation of 700 MHz public safety spectrum throughout Region9, there may be opportunities for increased channel reuse when developing radio systems for "campus" type operations. Examples of those who may capitalize on this opportunity include hospitals, stadiums, malls or places of public gathering, public universities, transit systems and ports. While these channels have been designated in county pool allotments with proper designations, they do not enjoy the benefits of countywide channels in that they are not cleared for usage over a wide area. In many instances, facilities require a smaller or more specific geographical coverage area than assumed in the initial channel packing plan and may be able to be reused more efficiently. These "campus" type systems also, in many cases, require in-building or confined space/tunnel radio coverage or communications along a linear pathway, such as a maintenance or right of way. Public safety channels can be allotted to this type operation in a region and can lead to effective system development, along with increased spectral efficiency, if power levels and Area of Protection (AOP) of the area are taken into account in system planning. These parameters must be established appropriate to the area of coverage. In order to facilitate this effective method of system implementation, channels have been identified in certain areas of Region 9that may be utilized in a smaller service area. These channels are NOT eligible to be utilized throughout the county they are allotted to and the following criteria must be adhered to when requesting channels from Region 9 for operations of this type:

If Region 9 receives an application for low power fixed use and the proposed service contour encroaches onto an adjacent region prior to the channel allotted to the region being implemented in a specific system, the application must be modified so the service contour does not encroach into the adjacent region **or** the applicant must supply the Region 9, 700 MHz Regional Planning Committee with written concurrence from the adjacent region permitting the original design. In summary, 700 MHz regional planning committees have the flexibility to utilize the channel allotments in their approved plans in the manner that best suits the needs of public safety within that region.

6.4 Procedure for Frequency Coordination

For details outlining recommended pre-coordination practices see Appendix M.

Before applicants submit an application to one of the FCC recognized frequency coordinators, the application must be reviewed and approved by the Regional Planning Committee. The Committee will review the application to ensure it complies with all elements of the Regional Plan. This will NOT be a review to ensure the application form meets FCC requirements for filing.

The applicants must submit a copy of the FCC application and supporting documents to the Regional Plan Chair. An interference prediction map must be included in the documentation. TIA/EIA TSB88-A (or latest version) guidelines will be used to produce the interference map. The map must show all interference predicted using TSB88-A guidelines. Any agency with co-channel or adjacent channel allotments may request field tests of signal levels to verify interference signal levels. Agencies must be prepared to conduct these field tests if a request is made.

6.5 Adjacent Region Spectrum Allocation and Coordination

Region 9 shares borders with Regions 1, 10 and 23. Region 9 will coordinate channel allocations with all its bordering regions by using the CAPRAD database. This tool will ensure adjacent state notification as well as FCC Certified Frequency Coordinator notification.

The Chair will send final draft copies of this plan to the conveners or Chair, as appropriate, to each adjacent region. Adjacent regions should be able to satisfy voice and narrowband data requests along their border areas with Region 9. If any region has problems satisfying requests in an adjacent area, the Florida RPC pledges to work with this region or any of the other surrounding regions to resolve any issues on a case by case basis.

6.6 Regional Plan Updates

This section is focused on instances when actions taken by the FCC or the 700 MHz Regional Planning Committee itself necessitate a change in the regional plan. 700 MHz Plan changes are required to be submitted to the FCC under Docket 02-378.

700 MHz PLAN MODIFICATION REQUIRED FOR ALL REGIONS
October 24, 2014 FCC Report and Order 14-172
Reserve Channel Reclassification-

Discussion (FCC 14-172)
Paragraph 39. We conclude that the 700 MHz Reserve Channels should be added to the General Use pool and made available for multiple uses under RPC administration. The demand for 700 MHz narrowband spectrum has significantly increased in recent years, particularly in large urban areas. Some 700 MHz licensees have channel requirements that have surpassed what was envisioned in the original channel allotment process. Moreover, in Los Angeles, Washington DC, and other major metropolitan areas, the Reserve Channels offer much-needed capacity for relocating T-Band public safety licensees as required by the Public Safety Spectrum Act.

Paragraph 40. To accommodate these spectrum demands, we adopt the following overall approach. Rather than dedicating the Reserve Channels exclusively for use with deployable systems, **we require the RPCs to administer the Reserve Channels subject to the following.**

In the non T-Band areas, up to eight 12.5 kilohertz channels may be dedicated for temporary deployable trunked use and the rest for General Use, including low-power vehicular repeaters. In the T-Band markets, all twenty-four Reserve Channels will be available for General Use with priority given to relocating T-Band incumbents that commit to return an equal amount of T-Band channels.

The RPCs shall submit channel plans consistent with this Report and Order within six months from publication in the Federal Register.112 We encourage T-Band licensees transitioning to the former Reserve Channels to consider using spectrally efficient 6.25 kHz technology given the limited number (24) of available former Reserve Channels.

Regional Planning Committees, per the FCC language above, have a number of options to consider when repurposing the former Reserve Channels within their regions. Those regions that include T-Band areas must prioritize the assignment of all 24 Reserve Channels to those T-Band licensees. The FCC has recommended that up to eight (8) Former Reserve Channels be designated for nationwide deployable use and the National Public Safety Telecommunications Council (NPSTC) and the National Regional Planning Council (NRPC) have submitted to the FCC their recommendations for six (6) Former Reserve Channels that should be considered for nationwide deployable use, in bold in the Reserve Channel List below:

FCC Channel	CAPRAD Channel Label	Base Frequency	Mobile Frequency	Status
37-38	General Use-D	769.231250	799.231250	Recommended for Nationwide Deployable Use
61-62	General Use-D	769.381250	799.381250	Recommended for Nationwide Deployable Use
77-78	General Use	769.481250	799.481250	Recommended for Vehicular Repeater Use (MO3)
117-118	General Use-D	769.731250	799.731250	Recommended for Nationwide Deployable Use
141-142	General Use-D	769.881250	799.881250	Recommended for Nationwide Deployable Use
157-158	General Use	769.981250	799.981250	Recommended for Vehicular Repeater Use (MO3)
197-198	General Use	770.231250	800.231250	Available
221-222	General Use	770.381250	800.381250	Available
237-238	General Use	770.481250	800.481250	Available
277-278	General Use	770.731250	800.731250	Available
301-302	General Use	770.881250	800.881250	Available

317-318	General Use	770.981250	800.981250	Available
643-644	General Use	773.018750	803.018750	Available
683-684	General Use	773.268750	803.268750	Available
699-700	General Use	773.368750	803.368750	Available
723-724	General Use	773.518750	803.518750	Available
763-764	General Use	773.768750	803.768750	Available
779-780	General Use	773.868750	803.868750	Available
803-804	General Use	774.018750	804.018750	Available
843-844	General Use	774.268750	804.268750	Available
859-860	General Use	774.368750	804.368750	Recommended for Vehicular Repeater Use (MO3)
883-884	General Use-D	774.518750	804.518750	Recommended for Nationwide Deployable Use (**Alt CC)****
923-924	General Use	774.768750	804.768750	Recommended for Vehicular Repeater Use (MO3)
939-940	General Use-D	774.868750	804.868750	Recommended for Nationwide Deployable Use (**Pri CC)****

** Channels 883-884 and 939-940 are designated as Alternate and Primary Control Channels for the Nationwide 700 MHz Deployable Trunked Systems.

Subsequently, it is recommended that each 700 MHz regional planning committee modify their existing plan to allow for the use of channels 37-38, 61-62, 117-118, 141-142, 883-884, and 939-940, other than in regions that include FCC designated T-Band areas where all 24 12.5 KHz former Reserve channels are prioritized for existing T-Band licensees. While regions are not required to dedicate the above listed 6 channels for nationwide deployable 700 MHz trunked systems, it is strongly recommended that the region solicit interest in their region with regard to the proposed use of these channels and which agencies, if any, would be interested in providing or accessing deployable equipment to support the use of these 6 channels.

As indicated in the list above, Non-Deployable Former Reserve Channel Assignments available in each region are: 77-78, 157-158, 197-198, 221-222, 237-238, 277-278, 301-302, 317-318, 643-644, 683-684, 699-700, 723-724, 763-764, 779-780, 803-804, 843-844, 859-860, 923-924. Some of the former Reserve channels can be utilized in regions for vehicular repeater operations (MO3) and the list above identifies channels that can be utilized for 800 MHz MO3 operations with sufficient duplexer spacing and other channels could be utilized for MO3 operations with non-800 MHz systems. Other than in the regions that include T-Band areas, regional planning committees can utilize the implementation of the former Reserve to General Use channels in any manner they deem appropriate. Below are a number of recommendations that regions can utilize in their plan modifications. Regions are encouraged to engage their members in conversations and discussions regarding the best utilization of these channels in their 700 MHz plan.

The Region 9, 700 MHz Regional Planning Committee submits this 700 MHz plan modification to the Commission in accordance with the Report and Order (14-172) and the requirements assigned to each regional planning committee therein.

Lastly, Region 9, 700 MHz Regional Planning Committee encourages the Commission to permit the introduction of new 700 MHz General Use channels in a flexible manner where the channels are available to all existing allotments where the channel use can be most optimum. 700 MHz Regional plan modifications need to reiterate the Intra-Region and Inter-Region coordination protocol in use currently in the region and how these new flexible allotments will be subject to the same coordination protocol within the region. Finally, Region 9 will utilize the same intra-region and inter-region coordination practices with these new, flexible General Use allotments as required in their current plan.

6.7 Air to Ground Channels

In its Report and Order (FCC 14-172) dated October 24, 2014 the FCC redesignated the 700 MHz Secondary Trunked channels and reserved them for specific Air to Ground communications between low-altitude aircraft and associated ground stations. The secondary channels are the most suitable channels for this specific Air to Ground purpose as they have no incumbents and little risk of co-channel interference since there are no current Secondary Trunked licensees.

The eight (8) 12.5 KHz Air to Ground channels are listed below:

FCC Channel	Base Frequency	Mobile Frequency	Status
21-22	769.131250	799.131250	Available
101-102	769.631250	799.631250	Available
181-182	770.131250	800.131250	Available
261-262	770.631250	800.631250	Available
659-660	773.118750	803.118750	Available
739-740	773.618750	803.618750	Available
819-820	774.118750	804.118750	Available
899-900	774.618750	804.618750	Available

The FCC also adopted a two (2) watt ERP limit for the use of these channels along with restricting airborne use of these channels to altitudes below 1500 feet Above Ground Level (AGL). To limit area impacted by the airborne operations. Given the proximity of these Secondary Trunking Channels to the designated Interoperability channels in the 700 MHz band (immediately adjacent to), the FCC assigned the responsibility for coordinating these channels to each state while permitting aircraft use on both the upper and lower portion of each Secondary Trunked Channel pair.

As indicated above, each state has been tasked with coordinating the Air to Ground Channels. The State of Florida SEIC through the State Department of Management Services will coordinate this spectrum.

FCC Channel Number	Base Frequency Center	Mobile Frequency Center
21-22	769.13125 MHz	799.13125 MHz
101-102	769.63125 MHz	799.63125 MHz
181-182	770.13125 MHz	800.13125 MHz
261-262	770.63125 MHz	800.63125 MHz
659-660	773.11875 MHz	803.11875 MHz
739-740	773.61875 MHz	803.61875 MHz
819-820	774.11875 MHz	804.11875 MHz
899-900	774.61875 MHz	804.61875 MHz

7.0 System Design/Efficiency Requirements

7.1 Interference Protection

The frequency allotment list will be based on an assumption that systems will be engineered on an interference-limited basis, not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other co-channel users. Coverage area is normally the geographical boundaries of the Agency(s) served plus a three to five mile area beyond.

Systems should be designed for minimum signal strength of 40 dBμ in the system coverage area while minimizing signal power out of the coverage area. TIA/EIA TSB88-A (or latest version) will be used to determine harmful interference assuming 40 dBμ, or greater, signal in all systems coverage areas. This may require patterned antennas and extra sites compared to a design that assumes noise limited coverage.

7.2 Spectrum Efficiency Standards

Initial allotments may be made on the basis of 25 kHz. To maximize spectrum utilization, prudent engineering practices and receivers of the highest quality must be used in all systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems are under-constructed (i.e; areas with the established service area having minimum signal strength below 40 dBu), or the systems utilize low quality receivers. The applicant's implementation of prudent engineering practices will be encouraged by the Regional Planning Committee at all times

It is the eventual goal of the FCC and the public safety community for radio equipment to meet the requirement of one voice channel per 6.25 KHz of spectrum. When applying for channels within Region 9, the applicants should know that regions have discretion on enforcing channel bandwidth and voice efficiency requirements for their region.
As 6.25 kHz migration and technology evolves, instances where an agency creates any "orphaned" 6.25 kHz channels should realize that these channels would be allocated to nearby agencies requesting channels to maintain consistent grouping and utilization of 25 kHz blocks within the region.

Region 9 encourages small agencies to partner with other agencies in multi-agency or regional systems as they promote spectrum efficiency and both small and large agency capacity needs can be met. Loading criteria can also be achieved in multi-agency systems that will allow greater throughput for all agencies involved than that which could be achieved individually.

7.3 Orphaned Channels

The narrowband pool allotments with Region 9 will have a channel bandwidth of 25 kHz. These 25 kHz allotments have been characterized as "Technology Neutral" and flexible enough to accommodate multiple technologies utilizing multiple bandwidths. If agencies choose a technology that requires less than 25 kHz channel bandwidth for their system, there is the potential for residual, "orphaned channels" of 6.25 kHz or 12.5 kHz bandwidth immediately adjacent to the assigned channel within a given county area.

An orphan channel may be used at another location within the county area where it was originally approved, if it meets co- and adjacent channel interference criteria. Region 9 will utilize **"county areas"** as guidelines for channel implementation with the area of Region 9. The definition of **"county area"** in this plan is the geographical/political boundaries of a given county, plus a distance of up to 10 miles outside of the county.

If the channel, or a portion of a channel, is being moved into a "county area" that is within 30 miles of an adjacent region, Region 9 will receive concurrence from the affected region. By extending the "county area" by a designated distance, it is anticipated this will increase the possibility that orphaned channel remainders will still be able to be utilized within the "county area", and reduce the potential for channel remainders to be forced to lay dormant and used with a county channel allotment. These movements will be documented on the National Public Safety Telecommunications Council CAPRAD database.

If the "orphaned channel" remainder does not meet co-channel and adjacent channel interference criteria by moving it within the "county area" as listed above, and it is determined by the region that the "orphaned channel" cannot be utilized in the region without exceeding the distance described in the "county area" listed above, Region 9 will submit a plan amendment to the FCC to repack the channel to a location where its potential use will maintain maximum spectral efficiency. This FCC plan amendment will require affected region concurrence.

When in the best interest of public safety communications and efficient spectrum use within the Region, the Region 9 Regional Planning Committee shall have the authority to move orphan channel allotments, and/or co-/adjacent-channel allotments affected by the movement of orphan channels, within its "county areas", which are defined above. This is to retain spectrum efficiency and/or minimize co-channel or adjacent channel interference between existing allotments within the region utilizing disparate bandwidths and technologies.

8.0 Allocation of Narrowband "General Use" Spectrum

8.1 Introduction

8.2 Low Power Secondary Operations

To facilitate portable operation by any licensee, and to provide channels for such operation without impacting the use of primary channels, certain low power secondary use will be permitted.
Any public safety entity otherwise licensed to use one or more channels under this Plan may receive authorization to license any additional channel for secondary use, subject to the following criteria:

- All operation of units on such authorized channels will be considered secondary to other licenses on both co-channel and adjacent channels,
- No channels on, or adjacent to, those designated in the Plan for wide area operation and/or mutual aid use will be authorized,
- Channels will be authorized for use in specific areas only, such areas to be within the licensees authorized operational area,
- Maximum power will be limited to 6 watts ERP,
- Use aboard aircraft is prohibited,
- Applications for channels may be submitted to the Committee for consideration at any time and must be accompanied by a showing of need. The Committee may select and authorize licensing of these secondary use channels after consideration of potential interference to co-channel and adjacent channel allotments, allocations and licensees. Authorization may be granted for use of any suitable channel, without prior allotment or allocation to the requesting agency,
- In the event the channels authorized for low power secondary operation are needed by others during any window opening for reassignment, no protection will be afforded to the licensed secondary user, and they may be required to change frequencies or surrender licenses to prevent interference to primary use channels.

8.3 Low Power Channels

The FCC in the 700 MHz band plan set aside channels 1 - 8 paired with 961 – 968 and 949– 958 paired with 1909– 1918 for low power use for on-scene incident response purposes using mobiles and portables subject to Commission-approved regional planning committee regional plans. Transmitter power must not exceed 2 watts (ERP).

Channels 9–12 paired with 969– 972 and 959– 960 paired with 1919– 1920 are licensed nationwide for itinerant operation. Transmitter power must not exceed 2 watts (ERP).

These channels may operate using analog operation. To facilitate analog modulation this plan will allow aggregation of two channels for 12.5 kHz bandwidth. On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) with an antenna height limit of 6.1 meter (20 feet) above the ground. However, users are encouraged to operate in simplex mode whenever possible. This plan does not limit use to only analog operations, these channels are intended for use in a wide variety of applications that may require digital modulation types.

In its dialog leading up to CFR §90.531 allocating the twenty-four low power 6.25 kHz frequency pairs (of which eighteen fall under RPC jurisdiction), the Federal Communications Commission (FCC) suggested that there is a potential for multiple low power applications, and absent a compelling showing, a sharing approach be employed rather than making exclusive assignments for each specific application because low power operations can co-exist [in relatively close proximity] on the same frequencies with minimal potential for interference due to the 2 watt power restriction.

Whereas advantages exist in not making assignments, the reverse is also true. If, for example, firefighters operate on a specific frequency or set of frequencies in one area, there is some logic in replicating that template throughout the region for firefighter equipment. If there are no assignments, such a replication is unlikely.

In seeking the middle ground with positive attributes showing up both for assignments and no assignments, we recommend the following regarding assignments associated with the eighteen narrowband channels for which the RPC's have responsibility**.**

- Channel #'s 1-4 and 949-952 are set aside as generic channels for use by public safety agencies operating within Region (your region #), and the complementary channel #'s 961-964 and 1909-1912 are set aside as generic channels also for use by public safety agencies including GPS differential correction telemetry for channels 961-964 and 1909-1912 likewise operating within Region (your region #).

- Channel #'s 5-8 are designated as Fire Protection channels for licensing and exclusive use by the Fire Protection discipline, and the complementary channel #'s 965-968 are set aside as Law Enforcement channels also for licensing and exclusive use by the Law Enforcement discipline.

- Channel #'s 955-956 are set aside as Fire Protection channels for licensing and exclusive use by the Fire Protection discipline, and the complementary channel #'s 1915-1916 are set aside as Law Enforcement channels also for licensing and exclusive use by the Law Enforcement discipline.

- Channel #'s 957-958 are set aside as Fire Protection/Law Enforcement channels for licensing and use by the Fire Protection and Law Enforcement disciplines, and the complementary channel #'s 1917-1918 are set aside as Fire Protection/Law Enforcement.

Simplex operations may occur on either the base or mobile channels. Users are cautioned to coordinate on scene use among all agencies involved. Users should license multiple channels and be prepared to operate on alternate channels at any given operational area.

8.4 System Implementation

Region 9 will not be affected by interference potential from existing television stations operating in the 700 MHz spectrum. A notification, in writing, has already been issued to secondary television station operators / licensees of the intended use of 700 MHz spectrum in Florida (APPENDIX "X"). This allows

for an applicant to have an immediate review of their application package and, when approved, meet intended construction timeframes identified within the application submittal.

After allocation of channels (Section 6.5) the agency must release a System RFP and sign a contract with a vendor within one year of the channel allocation. If an agency does not implement in the time frames specified, that agency's allotment may be removed from the allotment list. An Agency may file a request with the Region Chair for an extension of time to implement. The request should include all details describing why the agency has not implemented and a new implementation schedule. The Committee Chair will advertise this request and set a date for the full committee to vote on the request. If no request for extension is received or the Committee votes not to extend implementation, the Committee Chair will advertise this action and accept other agencies requests for an allotment of that spectrum.

Should system implementation not begin within two (2) years or if projected planned channel loading is not attained within four (4) years after granting of license, the channels will be returned for re-allotment to others. A one (1) year extension may be supported by the RPC, if it can be shown that circumstances are beyond the control of the applicant. The applicant will be responsible for contacting the FCC to request an extension. Applicants must be acting to the extent of their power to implement the project within their authority.

System implementation will be monitored by the RPC committee who will be responsible for determining the progress being made on the implementation of a system. Monitoring of systems implementation by the committee will take place on one (1) year intervals. If progress is made and the system is ultimately implemented the system can be determined "complete". If progress is not made, the licensee will be advised in writing that they are in default of their plan and the Region 9 plan and the consequences of their lack of progress. The committee will continue to monitor the progress of any system determined in default and if progress is still not being made the Chairman will inform the full RPC and recommend informing the FCC of the lack of progress. The licensee in default can appeal this action or can allow the license to be withdrawn. If the authorized frequencies are withdrawn they will be returned to the frequency allotment pool for future use.

8.5 Priority for Receiving Spectrum Allocations

Priority for channel allocations will be made on a first come first served basis. Cooperative multi-agency system implementations will be given priority over non-shared single agency systems.

When applying for the new 700 MHz channels, the RPC expects applicants to relinquish any amount of any currently used spectrum and make that spectrum available for use by other agencies in Region 9 upon beneficial use of an implemented 700 MHz radio system. This currently licensed spectrum may be in any public safety band.

> *Agencies with a primary voice communication system operating under a NPSPAC band 800 MHz license, which are requesting 700 MHz channels for system expansion, are not asked to relinquish this spectrum but will be asked to include this spectrum that is already licensed into the loading requirements for a radio system as defined in this plan. The reason for this requested inclusion is that most, if not all, radio equipment developed for the 700 MHz band is expected to be also capable of operation on any existing 800 MHz NPSPAC licensed systems already in use and will likely to be include in justification of the loading of NPSPAC channels. Without this inclusion, it would theoretically be possible for an agency to double its frequency spectrum allocations by applying for an equivalent number of 700 MHz*

channels, for each 800 MHz channel that it has already licensed and justified loading criteria for, and reuse the same mobile or portable users for both bands, to both planning committees, in Region 9. Although separated in FCC rules and regulations, Region 9will work with NPSPAC planning committees to attempt to make the most efficient use of spectrum for Public Safety in Region 9.

Agencies are encouraged to relinquish frequencies that will no longer be used as soon as possible in accordance with FCC rules and regulations.

The number of channels an applicant should retain would be an amount required to provide minimum interoperable communications to surrounding jurisdictions. In order to promote the interests of agencies that will benefit from an applicant submitting a request for 700 MHz spectrum, it is requested that the applicant submit a list of all channels and licenses held on existing public safety channels, and those channels that will be expected to be unlicensed when full beneficial use of 700 MHz channels are realized. The RPC will only distribute this information, and not decide if it is sufficient or not. It must be stressed that the Region 9 Regional Planning Committee supports and promotes multi-agency systems that allow for regional/wide area coverage within the region.

8.6 Channel Loading

The Region 9 Committee allotments will be made on the basis of TDMA/FDMA slots (talk paths). For 2 slot TDMA/FDMA technology based application, one 25KHz channel per/2 slots. For 4 slot TDMA/FDMA technology based applications, one 25KHz channel per/4 slots. Calculations will be rounded up to the next 25 KHz increment with one additional 25 KHz channel being allocated for control channel usage. All agencies requesting spectrum will be allocated channels if plan requirements are met.

Agencies requesting allotments shall provide the following for all Regional, Countywide, or municipal system:

- A list of all frequencies in use or planned to be used for the application regardless who the license holder is, that is operating as a "system" controlled by the same switch or infrastructure.
- The number of subscribers that will be operating on the system.
- Allocations will be provided based on subscriber quantity per time/frequency slot as defined in the following paragraphs.

Agencies using Frequency Division Multiplexing (FDMA) will be expected to maintain 12.5 KHz equivalency when developing systems and will be required to utilize BOTH 12.5 KHz portions of the 25 KHz block. In most cases, this will require the geographic separation of each 12.5 KHz adjacent channel. In order to promote spectrum efficiency, Region 9 will ensure that systems allocated 25 KHz channel blocks will utilize all of the channel and not "orphan" any portions of a system designated channel (See Section "7.3").

The RPC recognizes the FCC's increased focus on spectral efficiency standards versus absolute loading of each 700 MHz frequency assignment. It is however, the goal of the RPC to encourage efficient utilization of each frequency channel irrespective of bandwidth and the Region 9 Committee has adopted the following NRPC channel loading recommendations:

- Each applicant for a 700 MHZ trunked system shall channels allocated based on a loading of 100 mobile and portable radios, for each FDMA/TDMA time slot that will be placed in service within five (5) years of the initial plan approval date.

- Single conventional channels should be designed for a minimum load of 70 radios per 12.5 kHz channel. Mobile, portable, data, and control stations will all be considered within this count.

In some regions, channel loading will eventually be required to migrate to a voice efficiency of 70 units per 6.25 kHz channel, when further narrowband technologies are available and if the FCC at some point requires that voice efficiencies meet 6.25 kHz per voice path. Regional discretion on channel loading and bandwidth is directly proportional to channel availability and need.

8.7 Dispute Resolution – Intra-Regional

In the event an agency disputes the implementation of this Plan or the Federal Communications Committee approval of this Plan or parts of this Plan, the agency must notify the Chair of the dispute in writing. This section does not apply to protests over new spectrum allocations (see Section "6.5"). The Chair will attempt to resolve the dispute on an informal basis. If a party to the dispute employs the Chair, then the Vice Chair will attempt resolution. In such cases, the Chair shall be deemed to have a conflict of interest and will be precluded from voting on such matters. If after 30 days the dispute is not resolved, the Chair (or Vice Chair) will appoint a Dispute Resolution Committee consisting of two members from the State of Florida governmental agencies and at least five members from different counties in Region 9. That committee will select a Chair to head the committee and a secretary to document the proceedings.

The Regional Plan Chair (or Vice Chair) will represent the Region in presentations to the Dispute Resolution Committee. The Committee will hear input from the disputing agency, any effected agencies and the Region Chair. The Committee will then meet in executive session to prepare a recommendation to resolve the dispute. Should this recommendation not be acceptable to the disputing agency/agencies, the dispute and all written documentation from the dispute will be forwarded to the National Regional Planning Council. As a last resort, the dispute will be forwarded to the Federal Communications Commission for final resolution.

9.0 Interoperability Channels

9.1 Introduction

The ability for agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. The State of Florida is subject to many natural disasters and mutual aid is common among agencies. This Plan seeks to facilitate the communications necessary for effective mutual aid.

The State of Florida will administer the 700 MHz interoperability channels via the State Interoperability Executive Committee (SIEC) under National Coordination Committee's (NCC) guidelines. The Region 9, 700 MHz Regional Planning Committee will work with the Florida SEIC and the Chairman of the Region 9, 700 MHz Regional Planning Committee will participate in the Florida State Interoperability Executive Committee (SIEC) and they will represent Region 9. If at any time the State SIEC is unable to function in the role of administering the interoperability channels in the 700 MHz band, the State SIEC will notify the Commission of its inability to administer the 700 MHz Interoperability channels. This regional planning committee will administer these interoperability channels in the interim until further direction as to these responsibilities being assigned to the 700 MHz regional planning committee is provided by the Commission. Should the FCC approve of the transfer of these administration duties to the respective 700 MHz regional planning committee, then this committee will assume this role and notify the FCC in writing of its acceptance in the change of administrative duties.

9.2 Tactical Channels

Region 9 will not set aside additional channels for interoperability use within the region. It is anticipated the sixty-four FCC designated interoperability channels (6.25 KHz) will be sufficient to provide interoperability (voice and data) within the Region.

All mobile and portable units operating under this Plan and utilizing 700 MHz channels must be programmed with the 16 minimum channels called for in the Florida State Interoperability plan. The channel display in these radios will be in accordance with the NCC guidelines that have common alphanumeric nomenclature to avoid any misinterpretation of use within Region 9. The Florida SIEC is the final authority on the interpretation of the distribution of the 700 MHz interoperability channels.

Failure to program the required interoperability channels in all the licensees' subscribers shall violate the requirements of the channel grant from the Regional Planning Committee, and may result in the Region 9 Committee petitioning the FCC for revocation of the grant/license.

9.3 Deployable Systems

This Plan strongly supports use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on interoperability channels. This will minimize the expense of installing extensive fixed infrastructure and recognizes the difficulty of providing complete coverage of the region due to environmental constraints.

Agencies should have conventional deployable systems capable of being tuned to any of the interoperability tactical channels. Those agencies that are part of a multiagency trunked system and commonly provide mutual aid to each other are encouraged to have trunked deployable systems that operate on the tactical channels designated by the FCC for this use. The SIEC has developed the operational details for deploying these systems.

It is expected that the tactical channels set aside for trunked operation will be heavily used by deployable systems. Therefore, the tactical channels cannot be assigned to augment general use trunked systems.

See the last entry on Appendix F for the Deployable Systems channel listing.

9.4 Monitoring of Calling Channels

700 MHz licensees may be responsible for monitoring interoperable calling channels. The SIEC will develop operational guidelines for this function. Appendix "K" will include NCC documents that display required Interoperability guidelines.

10.0 Applicant Requirements and Evaluation

10.1 Introduction

The applicant evaluation criteria established in the NCC process, and as further defined in this plan, will be followed for approval. All requests will be considered on a first come, first served basis. In cases, where specific frequency allotments are required by numerous applicants at the same time, the applicant evaluation matrix point system will be utilized to determine the successful applicant. In all cases, area of coverage, technical requirements, and channel loading criteria will be applied. Exceptions may apply upon unique circumstances, after review and approval by the RPC. Deviations from FCC rules are not to be approved unless a fully justified waiver request has been presented to the RPC. The Region 9 Committee will evaluate and process applications within thirty (30) days after notified of receipt by CAPRAD.

The matrix has been prepared to enable consistent evaluation of plans and applications. Variations within the parameters of this plan and submitted applications and/or plans may require extensive evaluation. Therefore, it shall be responsibility of the RPC to evaluate each situation on its own merit.

10.2 Application Requirements

Each application must contain the following:

- FCC ULS 601 Form(s),
- Explanation of the systems future growth for all agencies
- Involved in the system, including how the system will be loaded and what equipment type and quantity is planned to be purchased to load the system,
- Explanation of the budget commitment for the proposed system,
- State of compliance that the applicant's agency will conform with interoperability requirements of the SIEC plan,
- Any documentation that identifies intended radio channels the agency/entity will be abandoning through the FCC licensing processes, after full beneficial system use of allocated 700 MHz channels, for informational purposes only, and the benefit of other Entities with Region 9.
- Documentation that will assist the evaluation of the application against the Point Matrix system identified in Section "10.3".

The application will be forwarded to the Applicant's designated coordinator for technical review and any appropriate information will be uploaded to CAPRAD. Upon approval by the coordinator the Applicant may submit to the FCC for licensure. Any conflicts encountered during the licensing process, after Regional approval, the application will be returned to the RPC for resolution with the applicant.

10.3 Evaluation Matrix Point System

Region 9 will use a point system to determine approval priority of competing applications within the region. The maximum total points that can be achieved are 800 points. The applications receiving the highest point total will receive approval for the channels. Seven categories will be evaluated.

Where applicable, such as in multiple disciplines shared systems, the points for all agencies utilizing the system are included in the total.

1. Service and Use (Maximum score 300 points)

Service	Points	
Local		10
County	10	
State		10
Federal	10	

Use		Points
Criminal Justice/Law Enforcement/Crisis Mgmt	50	
Fire/EMS		50
Special Emergency		40
Emergency Management	40	
Forestry Conservation	30	
Highway Maintenance	30	
General Government		20

Maximum Total 300

Environmental protection will fall in the "Special Emergency" category and shall be considered for tasks that directly reduce contamination to the air, water or ground by chemicals or waste materials.

2. Interoperability Communications (Maximum score 100 points)

The application is scored on the degree of interoperability that is demonstrated, with a range of points from 0 to 100. This category will not rate the application on the inclusion of interoperability channels, but on its proposed actual ability to communicate with different levels of government and services during a time of emergency.

Each applicant is encouraged to have direct mobile-to-mobile communications among these radio type functions; local, state and federal in the criminal justice, fire/EMS, special emergency, emergency management, forestry, highway maintenance and general government. All applicants will start with 100 points and points will be deducted based upon their lack of intersystem communications. No points will be deducted if a plan or system has not yet been developed within their areas of service.

- Ten (10) points will be deducted for each radio service type function in which the applicant lacks intersystem communication, if direct mobile-to-mobile does not exist.

- Five (5) points for each radio service that the applicant lacks direct mobile-to-mobile communications.

3. Loading (Maximum score 150 points)

Those applicants who have demonstrated that they are part of or developing cooperative, multi-agency, systems will be scored on a range from 0 to 150 points depending upon the extent of the cooperative system.

Mutli-agency trunked, fully loaded, system	101 – 150 points
Trunked system, fully loaded, single agency	76 – 100 points
Mobile data channel fully loaded/channel	76 – 100 points
Conventional system fully loaded/channel	0 – 75 points

Expansion of existing systems will be evaluated as to the aforementioned category they are in. Any system less than fully loaded will have its score multiplied by the proportion:

Fully loaded FDMA/TDMA slot is with 100 radio units. Control channels shall be considered as data channels. Plans submitted to the RPC shall stipulate the number of voice communication channels and the number of data channel(s). These points will only be assigned to fully loaded systems that are planned and identified with the application package submittal.

4. Spectrum Efficiency (Maximum score 50 points)

The applicant will be scored on the degree of spectrum efficient technology that the system demonstrates. A trunked system will be considered a spectrum efficient technology as well as any technological systems feature that is designed to enhance the efficiency of the system and improve the efficient use of spectrum.

Spectrum efficiency points

Trunked or equally high efficient technology	50 points
Conventional system using data	50 points
Technologies that increases system throughput	50 points

5. System Implementation Factors (Maximum score 100 points)

This category scores the applicant on two factors, budgetary commitment and plan completeness. The degree of budgetary commitment is scored on a range from 0 to 50 points based on the RPC's evaluation of commitment demonstrated through documentation by the applicant and its funding source entity. A high degree of funding commitment will receive a higher score. Applicants will also be scored on the degree of plan completeness on a range from 0 to 50 points. Applicants must submit a timetable for the implementation of the system. Applicants should be aware of the requirements outlined in "Slow Growth Plan" portion of this plan and the FCC rules.

Multi phase project with funds committed to all phases 50 points
Multi phase project plan completed for all phases 50 points

Applicants with less than complete funding commitment and/or incomplete plans will have their point score reduced accordingly. Resolutions, legislation, or other such documentation from governing entities shall be submitted with applications to support financial commitment.

6. System Density (Maximum score 100 points)

Each applicant's System will be scored on the level of geographic efficiency for requisite communications coverage, for the applicant's jurisdictional area served or regional area served under agreement with other Agencies and/or defined communication requirements. Scoring will be based upon the defined radio coverage area of the application, and the Entity's jurisdictional area or required communication support areas. This evaluation is to only weigh the efficiency of the System being applied for, against the required areas for communication support based on System user requirements or other Entity Systems licensed or applied for. Scores are based on the ratio multiplied by 100 with the maximum not to exceed 100 points.

Percentage of System operational area for applicant's jurisdictional area of responsibility for communications support x 100 = _____

10.4 Application Processing

All applications will be processed in the most expeditious manner possible by the RPC. After Region 9 approval, the applications will be sent to the coordinator requested by the applicant. All documentation required by the designated coordinator selected in this process will be available through the CAPRAD system. Subsequent to coordination approval the FCC will grant the license(s) to the applicant.

Counties or other geographic subdivisions within 70 miles of the Regional border need to share spectrum with the adjacent Region(s). The sharing indicated is inherent in the CAPRAD Packing Program, as it views all counties nationwide as separate entities while ignoring state borders. With all criteria being equal, this ensures all counties are provided sufficient spectrum in accordance with their surrounding counties. The appropriate ratio of channels shall be allotted to counties in adjacent regions based upon each county's population. A 25 kHz building block will be used to distribute spectrum between the regions. A description of the demographics of the affected border areas shall be included.

12.0 Future Planning

12.1 Database Maintenance

The CAPRAD pre-coordination database has developed channel allotments in each county area within Region 9 using criteria such as current population, 2010 Census data, height above average terrain (HAAT) and public safety use curves generated by the Public Safety Wireless Advisory Committee (PSWAC) to provide spectrally efficient frequency allotments. Region 9 will continue to use the CAPRAD pre-coordination database for other 700 MHz spectrum as it becomes available.

12.2 Inter-Regional Dispute Resolution Process

In the event that a dispute arises between Region 9 and an adjacent Region or Regions, regarding spectrum allocations or implementation, which cannot be resolved within 60 days, the parties to the dispute will request a hearing by the National Regional Planning Oversight Committee.

All 3 adjacent Regions have signed the Region 9 dispute resolution. See Appendix "J" for details and Inter-Regional Dispute Resolution Agreements signed by the adjacent Regions.

I hereby certify that all planning committee meetings, including subcommittee or executive committee meetings were open to the public. A summary of the deliberations of the Committee pursuant to adopting this Plan can be found in Appendix "F", Meeting attendance, agendas and other events.

Raymond H. Carlson
(Date)
Chairperson, Region 9

APPENDIX A

THE BYLAWS OF REGION 9/700 MHz PUBLIC SAFETY COMMITTEE

ADOPTED JANUARY 17, 2001
AMENDED MAY 3, 2001 (Amendment 1)
ADMENDED MAY 19, 2003 (Amendment 2)

ARTICLE 1

NAME & PURPOSE

1.1 Name and purpose. The name of this Region shall be Region 9/700 MHz Public Safety Committee. Its primary purpose is to foster cooperation, planning, development of regional plans and the implementation of these plans in the 700 MHz Public Safety Band.

ARTICLE II

MEMBERS

For purposes of this Article, the term "member," unless otherwise specified, refers to both voting and non-voting members.

2.1 Number, Election and Qualification. The Region 9/700 MHz Public Safety Committee shall have two classes of members, "voting members" and "non-voting members." New members may be added at any time by written request to the Region 9/700 MHz Public Safety Committee Secretary.

2.2 Voting Members. Voting members shall consist of one representative from any single agency eligible to hold a license under 47 CFR 90.20, 47 CFR 90.523 or 47 CFR 2.103 and holds a unique FCC Universal Licensing System (ULS) identifier.

2.3 Non-Voting Members. Non-voting members are all others interested in furthering the goals of public safety communications.

2.4 Tenure. In general, each member shall hold MEMBERSHIP from the date of acceptance until resignation or removal.

2.5 In voting on any issue the individual must identify himself/herself and the agency which he or she represents.

2.6 Powers and Rights. In addition to such powers and rights as are vested in them by law, or these bylaws, the members shall have such other powers and rights as the membership may determine.

2.7 Resignation. A member may resign by delivering written resignation to the chairman, vice-chairman, treasurer or secretary of the Regional Committee or to a meeting of the members.

2.8 Annual Meetings. The annual meeting of the members shall be held at a date, time and location as determined by the Officers. If an annual meeting is not held as herein provided, a special meeting of the members may be held in place thereof with the same force and effect as the annual meeting, and in such case all references in these bylaws, except in this Section 2.6, to the annual meeting of the members shall be deemed to refer to such special meeting. Any such special meeting shall be called and notice shall be given as provided in Section 2.11 and 2.12.

2.9 Special Meetings. Special meetings of the members may be held at any time and at any place within the Regional Committee area. Special meetings of the members may be called by the chairman or by the vice-chairman, or in case of death, absence, incapacity, by any other officer or, upon written application of two or more members.

2.10 Call and Notice.

A. Notice shall be given to each member. Such notice need not specify the purposes of a meeting, unless otherwise required by law or these bylaws or unless there is to be considered at the meeting (i) amendments to these bylaws, (ii) removal or suspension of a member who is an officer.

B. Reasonable and sufficient notice. Except as otherwise expressly provided, it shall be reasonable and sufficient notice to a member to send notice by mail or by e-mail/facsimile at least fifteen days before the meeting, addressed to such member at this or her usual or last known business address.

2.10.1 Quorum. At any meeting of the Region 9/700 MHz Public Safety Committee, voting members present shall constitute a quorum.

2.11 Action by Vote. A majority of the votes properly cast by members present shall decide any question, including election to any office, unless otherwise provided by law or these bylaws.

2.12 Action by Writing. Any action required or permitted to be taken at any meeting of the members may be taken without a meeting if all members entitled to vote on the matter consent to the action in writing and the written consents are filed with the records of the meetings of the members. E-mail responses shall be considered a written consent. Such consents shall be treated for all purposes as a vote at a meeting.

2.13 Proxies. Voting members may vote either in person or by written proxy dated not more than one month before the meeting named therein, which proxies shall be filed before being noted with the secretary or other person responsible for recording the proceedings of the meeting. Unless otherwise specifically limited by their terms, such proxies shall entitle the holders thereof to vote at any adjournment of the meeting by the proxy shall terminate after the final adjournment of such meeting.

ARTICLE III

OFFICERS AND AGENTS 3.1 Number and qualification. The officers of the Region 9/700 MHz Public Safety Committee shall be a chairman, vice-chairman, treasurer, secretary, sub-region chairmen, and such other officers, if any, as the voting members may determine.

The purpose of the Officers, acting on behalf of the membership, will be to perform the operational duties of all aspects of the Florida Region 9/700 MHz Public Safety Plan.

3.2 Election. The voting members at their first meeting, January 17, 2001 shall elect the officers. Thereafter, Officers shall hold office until the first Region 9/700 Mhz. plan is approved by the FCC, after which time the election of officers shall continue at the next annual meeting.[1]

3.3 Chairman and Vice Chairman. The chairman shall be the chief executive officer of the Regional Committee and, subject to the control of the voting members, shall have general charge and supervision of the affairs of the Regional Committee. The chairman shall preside at all meetings of the Regional Committee. The Vice-Chairman, if any, shall have such duties and powers as the voting members shall determine. The Vice-chairman shall have and may exercise all the powers and duties of the chairman during the absence of the chairman or in the event of his or her inability to act.

[1] Amendment 2, adopted May 19, 2003

3.4 Treasurer. The treasurer shall be the chief financial officer and the chief accounting officer of the Regional Committee. The treasurer shall be in charge of its financial affairs, funds, and valuable papers and shall keep full and accurate records thereof.

3.5 Secretary. The secretary shall record and maintain records of all proceedings of the members in a file or series of files kept for that purpose, which file or files shall be kept within Region 9 and shall be open at all reasonable times to the inspection of any member. Such file or files shall also contain records of all meetings and the original, or attested copies, of bylaws and names of all members and the address (including e-mail address, if available) of each. If the secretary is absent from any meeting of members, a temporary secretary chosen at the meeting shall exercise the duties of the secretary at the meeting.

3.6 Suspension or Removal. An officer may be suspended or removed from office with cause by vote of a majority of the voting members present during a meeting.

3.7 Resignation. An officer may resign by delivering his or her written resignation to the chairman, vice-chairman, treasurer, or secretary of the Regional 9 Committee. Such resignation shall be effective upon receipt (unless specified to be effective at some other time), and acceptance thereof shall not be necessary to make it effective unless it so states.

3.8 Vacancies. If the office of any officer becomes vacant, the Officers of the Regional Committee by majority, shall appoint a successor. Each such successor shall hold office until the next annual membership meeting at which point the position will be open for nominations.

ARTICLE IV

AMENDMENTS

These bylaws may be altered, amended or repealed in whole or in part by vote. The voting members may by a majority vote of members present if voting occurs under Section 2.08/2.09, or, majority of members responses to a meeting called under 2.13 of these by-laws , alter, amend, or repeal any bylaws adopted by the Region 9/700 MHz Public Safety Committee members or otherwise adopt, alter, amend or repeal any provision which FCC regulation or these bylaws requires action by the voting members.

ARTICLE V

DISSOLUTION

This Region 9/700 MHz Public Safety Committee may be dissolved by the consent of two-thirds plus one of the members in good standing at a special meeting called for such purpose. The FCC shall be notified.

ARTICLE VI

RULES OF PROCEDURES

The Conduct of Regional Meetings including without limitation, debate and voting, shall be governed by Robert's Rules of Order, newly revised 1990 edition, ninth edition, Sarah Corbin Robert, Henry M. Robert III, and William J. Evans.

Appendix B-700 MHz Regional Planning Committee Membership List

Region 9 Members, Agencies, Contact Information and Voting Status

Name	Company Name	Address			Telephone #:	Cell	Email address	Government Agency

Adams, Nick	Florida Dept of Transportation							
Albright, James	Clearwater Police Dept.						jalbright@clearwaterpolice.org	
Allon, Peter	M/A-Com						allanpe@tycoelectronics.com	
Bahr, Forrest	City of Miami Fire						Wbahr@ci.miami.fl.us	
Bishop, Harold	City of Miami P.D.						harold.bishop@miami-police.org	
Broderick, Patty	Orange County Public Safety	3663 S. John Young Parkway	Orlando	32810	407-836-3474	407-836-3774	pbroderick@co.orange.fl.us	County government
Byrum, David	Pinellas County Sheriff	10750 Ulmerton Road	Largo	33778	727-582-6310	727-582-6253	dbyrum@pcsonet.com	Law Enforcement
Carlson, Raymond	Palm Beach County Sheriff's Office	3228 Gun Club Road	West Palm Beach	33406	561-688-3514	561-688-3778	carlsonr@pbso.org	Sheriff's Office
Carrillo, Bill	Miami-Dade County	5680 SW 87 Avenue	Miami	33173	305-596-8885	305-596-8396	EN335@co.miami-dade.fl.us	County Radio Communications
Cawood, George	Volusia County	123 W. Indiana Ave.	Deland	32720	386-822-5086	386-623-3530	gcawood@co.volusia.fl.us	
Carroll, Mike	Hillsborough County						mcarroll@hcso.tampa.fl.us	
Clauson, Bill	Volusia County	119 W. Indiana Ave.	Deland	32720				
Colbert Robert	Seminole County Sheriffs Office	100 Bush Dlvd.	Sanford	32773	407-665-6608	407-302-6788	bcolbert@earthlink.net	County Sheriffs Office
Conklin, Eric	Brevard County	2725 Judge	Viera	32940	321-637-	321-	eric.conklin@countygovt.brevard.fl.us	County Governm

	Commissioners	Fran Jamieson Way, Bldg C			5330	690-6842		ent
Cordova, Alex	Motorola				813-404-0290		alex.cordova@motorola.com	
Curtis, Clark	Palm Beach County	3323 Belvedere, Bldg 506	West Palm B.	33406	561-233-4419	561-233-4435	icurtis@co.palm-beach.fl.us	County Government
Dean, Ray	Motorola, Inc.	2170 SR 434, Suite 245	Longwood	32779	407-576-5273	407-576-5276	Ray.Dean@motorola.com	Motorola Sales
Dickmann, Dave	Professional Communications Consultants	201 Fletcher Ave	Sarasota	34237	941-329-6000	941-329-6030	ave@dlr.com	Engineering Consultant
Eierman, David	Motorola	7230 Parkway Dr.	Hanover MD.	21076	410-712-6242	410-712-6208	david.eierman@motorola.com	
English, Wayne	Municipal Public Safety Comm Consortium	301 N. Olive Avenue, Suite 1001	West Palm Beach	33401	561-355-2326	561-355-4941	wenglish@co.palm-beach.fl.us	Government
Ferrell, Bob	State of Florida	4030 Esplanade Way	Tallahassee		850-922-7406	850-487-2329	bob.ferrell@myflorida.com	State Communications agency
Filla, Mark	Palm Beach County Communications						mfilla@co.palm-beach.fl.us	
Fodi, Dennis	Pasco County Comm.	8744 Government Drive	New Port Richey	34654	727-847-8189		dfodi@pascocountyfl.net	
Fuchs, Linda	State Tech. Office				850-488-8036	850-488-0445	linda.fuchs@myflorida.com	

Furtaw, Bob	Tait Electronics						bob,furtaw@tait.co.nz	
Gallelli, Joe		477 Seminole Woods	Geneva	32737	407-349-9199	407-349-9199	102652.1051@compuserve.com	Consultant
Gaston, Keith	Florida Highway Patrol				904-301-3660	904-301-3661	gaston.keith@fhp.hsmv.state.fl.us	
Gonzalez, Jorge	RCC Consultants, Inc.						jogonzalez@rcc.com	
Hamlin, Roy	City of Miami						Rhamlin@ci.miami.fl.us	
Harrington, Mike	Motorola				239-574-8765	239-574-9876	michael.harrington@motorola.com	
Harris, Urana	Florida Highway Patrol				904-301-3663	904-301-3661	harris.urana@fhp.hsmo.state.fl.us	
Hattaway, Thomas	Orlando Fire Department	439 S. Magnolia Ave.	Orlando	32801	407-246-4132	407-246-2748	thomas.hattaway@ci.orlando.fl.us	Communications Technician
Hoffay, Earl	Jacksonville						ehoffay@coj.net	
Holycross, Ben	Polk County Emergency Management	285 N. 3rd Ave.	Bartow	33830	863-519-3930	863-519-3929	holycros@gte.net	County Government
Jenkins, Richard	Martin County	2301 Aviation Way	Stuart	34996	772-463-3257	772-260-2679	rjenkins@martin.fl.us	Consultant
Johnson, Todd	Motorola				954-723-8926		todd.johnson@motorola.com	
Justre, Bob	City of Tampa	3701 12th St.	Tampa	33603	813-242-5332	813-242-	fe19@ci.tampa.fl.us	City Governemnt

						5327		
Kager,Andrew	Motorola	P.O. Box 864	Zellwood	32794	407-832-1891		andrew.kager@motorola.com	
Kandel, Joel	Kandel and Associates	601 NW 71st Ave.	Plantation	33317-1122	954-791-4275	954-791-7461	jkandel@ix.netcom.com	Consultant
Kessler, Jerry	RCC Consultants, Inc.	930 Thomasville Road, Suite 200	Tallahassee	32303-6299	850-212-6455	850-224-3059	jkessler@rcc.com	Consulting
King, Doug	Hillsborough County						dmking@hcso.tampa.fl.us	
Kintz, John	Broward County Fire Rescue	2601 W. Broward Blvd.	Ft. Lauderdale	33312	954-831-8253	954-831-8265	jkintz@broward.org	County Fire Agency
Kirk, Frank	Seminole County public Safety	150 Bush Blvd.	Sanford	32773	407-665-5911	407-665-5049	fkirk@co.seminole.fl.us	Fire Rescue 911 Management.
Latif, Farokh	APCO						latiff@apco911.org	
Laventure, Robert	Palm Beach County				561-233-4423	561-233-4439	rlaventure@co.palm-beach.fl.us	
Lineberry, Gill T.	APCO - Florida Advisor	1154 Western Way	Orlando	32804	407-843-4122		glineberry@prodigy.net	Frequency Coordination
Longueira, Joe	City of Miami P.D.						joseph.longueira@miami-police.org	
Lopez, Glenn	Volusia County Sheriff's Office				386-248-1770	386-254-1525	Glopez@so.co.volusia.fl.us	
Luke, Barry	Orange County Fire Rescue	6590 Amory Ct.	Winter Park	32792	4047-836-9119		barry.luke@co.orange.fl us	County Fire Agency
Luke, Robert	Tampa Police						robert.luke@tampagov.net	

McLaughlin,Brian	Clearwater Police Dept.						bmclaughlin@clearwaterpolice.org	
Madden, Roger	Fl. Dept. of Transportation	605 Suwannee St. MS90	Tallahassee	32399-0450	850-414-4986	850-410-5488	roger.madden@dot.state.fl.us	State department of transportation
Magruder, Leven	City of Tallahassee	642-C Mabry Street	Tallahassee	32304	850-891-5370	850-891-5374	magrudel@talgov.com	City Government
Marks, Al	ADM Marketing Associates	29005 Palm shores Blvd.	Punta Gorda	33982	941-639-1513	941-637-6932	admmktg@isni.net	Vendor
Mathis, Lee	City of Jacksonville, Telecom	801 Broadcast Pl.	Jacksonville	32207	904-545-2242	904-665-4354	mathhl@jea.com	City of Jacksonville
Mayr, Ken	St. Lucie County Fire						kmayr@slcfo.org	
Mitchell, Steve	Hillsborough County Sheriff's Office				813-247-0972		smitchell@hcso.tampa.fl.us	
Montanari, Pam	Pinellas County Government	12490 Ulmerton Road	Largo	33774	727-582-3509	727-582-2555	pmontana@co.pinellas,fl.us	Government
Nehring, Terry	City of Tampa Electronics	3701 12th Street	Tampa	33603	813-242-5332	813-242-5327	FE12@ci.tampa.fl.us	City Government
Oblak, John	E.F. Johnson	299 Johnson Ave. SW	Waseca, MN	56093	507-835-6276	507-835-6666	joblak@efjohnson.com	
Oliveras, Tommy	Seminole County	180Bsh Blvd Rm 308	Sanford	32772	407-665-5118	407-665-5248	tolivera@co.seminole.fl us	County Government

Osman, Dell	Motorola	789 International Parkway	Sunrise	33325	954-723-8918	954-457-0930	dell.osman@motorola.com	Vendor
Otero, Jose R.	Miami-Dade County	5680 SW 87 Avenue	Miami	33173	305-596-8409	305-596-8774	JRO@miamidade.gov	County Radio Communications
Otero, Jose R.	Miami-Dade County				305-596-8909		dog@miamidade.gov	
O'Toole, John	E F Johnson						jotoole@efjohnson.com	
Pache, Raymond	Dataradio						rpache@dataradio.com	
Pallans, Mark D.	City of Fort Lauderdale	100 N. Andrews Avenue	Fort Lauderdale	33301	954-828-5790	954-828-5957	markp@ci.ftlaud.fl.us	City Government
Pape, Michael	City of Tallahassee	642-C Mabry Street	Tallahassee	32304	850-891-5375	850-891-5374	papem@talgov.com	City Government
Peek, Chris	Hillsborough County						cpeek@hcso.tampa.fl.us	
Pegram,. Helen (Vickie)	Greater Orlando Aviation Authority	One Airport Blvd.	Orlando	32712	407-825-2063	407-240-1530	vpegram@goaa.org	Airport Authority
Perez, Jose. R.	Miami-Dade County	6010 SW 87 Avenue	Miami	33173	305-596-8909		pogs@metro-dade.com	County Gov't Infrastructure
Phillips, Lewis	RCC Consultants, Inc.						lphillips@rcc.com	
Poe, Norman	City of Orlando	100 S. Hughey St.	Orlando	23801	407-246-3659	407-246-2549	norm.poe@ci.orlando.fl.us	Municipal Government
Posey, Terry	RCC Consultants, Inc.	930 Thomasville Road, Suite 200	Tallahassee	32303	850-224-4451	850-224-3059	tposey@rcc.com	

Quigley, Bill	Sarasota County Emergency Services	1660 Ringling Blvd.	Sarasota	34236	941-951-5283	Cell 941-915-7708	bquiale@scgov.net	County Government
Reynolds, Gia	St. Johns Co. Fire Rescue				904-829-2226		greynolds@co.st-johns.fl.us	
Rinehart, Bette	Motorola	1270 Fairfield Rd.	Gettysburg, PA	17325	717-334-0654	717-334-9588	c18923@email.mot.com	Manafacature
Rittenburg, Gray	Dataradio						grittenburg@dataradio.com	
Rogell, Pete	Relm Wireless/ BK Radio						progell@relm.com	
Rossbach, Steve	City of Miami P.D.						steve.rossback@miami-police.org	
Roth, John	Atlantic Scientific Corp	4300 Fortuen PL. Suite A	W. Melbourne	32904	321-725-8000	321-727-0736 1	jroth@atlanticscientific.com	Surg Protection Vendor
Rudiger, Ginger	Polk County Emergency Management						gingerrudiger@polk-county.net	
Saliba, Jean-Pierre	State Technology Office				850-922-7418	850-414-8324	jean-pierre.saliba@myflorida.com	
Santana, Eliseo	Pinellas County Sheriff	10750 Ulmerton Road	Largo	33778	727-582-6311	727-582-6253	esantana@co.pinellas.fl.us	Law Enforcement
Selema, Luis	City of Miami						lselema@cl.miami.fl.us	
Shank, Carl	St. Johns Co. Fire Rescue				904-823-2526		cshank@co.-st-johns.fl.us	
Siebert, Jennifer	Hillsborough County						jsiebert@hcso.tampa.fl.us	

Sneed, Elmer	Seminole County Telecom	150 Bush Road	Sanford	32772	407-665-5118	407-665-5248	esneed@co.seminole.fl.us	County Government
Solinske, David	City of St. Petersburg	551 19th St. North	St. Petersburg	33713	727-551-3211	727-892-5435	dhsolins@stpete.org	City Government
Sorley, Tom	Orange County	3511 Parkway Center Ct.	Orlando	32808	407-836-2792	407-521-4682	Tom.Sorley@ocfl.net	County Government
Stewart, Mindy	City of Ocala	P.O. Box 1270	Ocala	34478	352-369-7197	352-369-7217	mstewart@ocalapd.org	City Government
StillWell, Matthew	City of Coral Springs	2801 Coral Springs Drive	Coral Springs	33065	954-346-1365	954-346-1357	mjs@ci.coral-springs.fl.us	City Government
Striker, George	Hillsborough County Sheriff's Office		Tampa	33619	813-247-0021		gstriker@hcso.tampa.fl.us	
Ward, Marilyn	Orange County	3511 Parkway Center Ct.	Orlando		407-836-9668		marilyn.ward@co.orange.fl.us	Government
Waugaman, William R.	E.F. Johnson Co.	523 White Collums Way	Wilmington NC	28411	910-681-0252	910-681-0253	bwaugaman@efjohnson.com	Vendor
Weissgerber, Frank		18411 Dembridge Dr. Sinclair	Davidson, NC	28036	704-895-3646	same	f.weissgerber@att.net	Antenna systems vendor
Wells, Carlton	State of Florida-STO: Communications	4030 Esplanade Way	Tallahassee	32399-0950	850-922-7426	850-487-2329	carlton.wells@myflorida.com	State Communications
Williams, Dick	Pinellas County						rwilliam@co.pinellas.fl.us	

Willis, Milton	City of Tallahassee				850-891-5496	850-891-5374	willism@talgov.com	
Winter, Paul	Charlotte County - Emergency Management	7474 Utilities Road	Punta Gorda	33982	941-575-5343	941-575-5337	paul.winter@CHARLOTTEFL.com	County Government
Wostel, Ron	City of Tallahassee	642-C Mabry Street	Tallahassee	32304	850-891-5373	850-891-5374	wostelr@talgov.com	City Government
Wurster, Stephen	Motorola						steve.wurster@motorola.com	
Zelazny, Robert	Palm Beach County	3323 Belvedere, Bldg 506	West Palm Beach	33406	561-233-4401	561-233-4439	rzelazny@co.palm-beach.fl.us	Director of County Communications
Zorrilla, Diana	Motorola							

Appendix C-List of Counties/Cities in the 700 MHz Region

Alachua	Flagler	Lafayette	Pinellas
Baker	Franklin	Lee	Polk
Bay	Gadsden	Leon	Putnam
Bradford	Gilchrist	Levy	Santa Rosa
Brevard	Glades	Liberty	Sarasota
Broward	Gulf	Madison	Seminole
Calhoun	Hamilton	Manatee	Suwannee
Charlotte	Hardee	Marion	St. Johns
Citrus	Hendry	Martin	St. Lucie
Clay	Hernando	Monroe	Sumter
Collier	Highlands	Nassau	Taylor
Columbia	Hillsborough	Okaloosa	Union
Dade	Holmes	Okeechobee	Wakulla
Desoto	Indian River	Orange	Walton
Dixie	Jackson	Osceola	Washington
Duval	Jefferson	Palm Beach	Volusia
Escambia	Lake	Pasco	

Appendix D-Letter to Adjacent Regional Chairs to obtain 700 MHz plan approval and approval lettes

REGION CHAIRMAN
Mr. Ray Carlson
Division Manager
PBC Sheriff's Office
3228 Gun Club Road
W. Palm Beach, FL 33406
(561) 688-3514
carlsonr@pbso.org

REGION VICE CHAIRMAN
Mr. Gary Gray
Radio Systems Manager
City of Ft. Lauderdale
100 N. Andrews Ave.
Fort Lauderdale, FL 33301
(954) 828-5762
GGray@fortlauderdale.gov

THE FLORIDA
REGION 9 COMMITTEE
(800 & 700 MHz Regional Planning)

October 21, 2015

Region 10
Mr. Jim Mollohan, Chairman

Region 1
Mr. Eric Linsey, Chairman

Region 23
Mr. Donald Loper, Chairman

Gentlemen:

Attached is the Florida Region 9 plan modified for all the changes that have been implemented by the FCC.

This was only one major change from the previous plan and that is the air-to-ground rulings from Report and Order FCC 14-172. This is incorporated in Section 6.7 on document page 10.

We have copied and pasted all of the previous Region 9 Plan into the new Format that was provided through NRPC and APCO. This cleaned up the document and looks much nicer. The only other changes was correcting typos and formatting that occurred during the past functions.

As Mr. Mollohan indicated earlier in his e-mail, time is critical.

Sincerely,
Ray Carlson, Chairman

Region 1, Alabama

October 27, 2015

Ray Carlson, Chairman
Region 9, 700 MHz Regional Planning Committee
3228 Gun Club Road
W. Palm Beach, FL 33406

Re: Region 9, Florida 700 MHz Regional Plan

Dear Ray:

I have received your email dated October 21, 2015 and a copy of the above-mentioned modified plan. As Chairman of the Region 1, Alabama Regional Planning Committee, I concur with Region 9's amended 700 MHz Regional Plan. If you have any questions, please contact me at (251) 574-7931.

Respectfully,

Eric Linsley
Chairman Region 1 RPC
Region 1, 700 & 800 MHz Regional Planning Committee
Eric Linsley, Chairman
1150 Schillinger Road North
Mobile, AL 36608

REGION 10(GEORGIA)
700MHZ REGIONAL PLANNING COMMITTEE
JIMMOLLOHAN, CHAIRMAN
RALPH BEVAN, VICE-CHAIRMAN
GEORGIA TECHNOLOGY AUTHORITY
47 TRINITY AVE SW, 3rd Floor
ATLANTA, GEORGIA 30334-9007
OFFICE: 404-656-5619
EMAIL: JIM.MOLLOHAN@GTA.GA.GOV
October 22, 2015
Federal Communications Commission
Wireless Telecommunications Bureau
1270 Fairfield Road
Gettysburg, PA 17325-7245
Ref: Concurrence of Region 9, RPC 700 MHz Plan Changes
Dear Sir/Madam:

The purpose of this letter is to provide concurrence and approval of the attached Region 9, 700MHz RPC Plan changes.
This action is in compliance with the Region 10, 700 MHz Plan, and is recommended to be acted upon favorably by the FCC.
Thank you for your assistance and cooperation in this matter.

Respectively,
Jim Mollohan
700/800MHz RPC, Region 10 Chairman
cc: Raymond Carlson, Chairman, Region 9, 700/800MHz RPC
Ralph Bevan,

October 27, 2015

Raymond H. Carlson
Chairman Region 9 800 & 700MHz Regional Planning
3228 Gun Club Road
West Palm Bach, FL 33406

Dear Mr. Carlson,

Region 23 on October 23, 2015, received and reviewed the modifications to the Region 9 800 & 700 MHz Plan for changes implemented by the FCC.
This letter serves as the official, written concurrence of Region 23 with the Region 9 700 MHz Plan as reviewed on the date specified above.

Respectfully,
Tom Lariviere,
MSRPFAC

Appendix E-Regional Planning Committee Meeting Minutes

Florida 700 MHz Region Committee Meeting
May 3, 2001
St. Petersburg, Florida
Minutes

Session opened at 10:40 AM EST.

Presiding officers present:

Chairman, Mark Pallans, City of Ft. Lauderdale
Treasure, Pam Montanari, Pinellas County
Secretary, Ray Carlson, Palm Beach County
14 voting members, Sign in sheet attached.

Mr. Pallans opened the session by providing instructions for the sign in procedure and introductions.

- First order of business.

Extensive discussion was held on the terms of office with reference made to Article III of the by-laws. Motion was made that the terms shall be for one year for all officers, with elections held during the annual State of Florida APCO conference. Motion passed.

- Second order of business, establishment of sub-regions.

Discussion was held on the method and configuration of the sub-regions. Motion was placed on the floor by Jose Otero and seconded by Carlson Wells, that the existing Region 9 Committee system of sub-region boundaries be adopted for the 700 MHz Committee. Motion passed.

Motion placed on the floor by Terrance Stillwell and seconded by Ray Carlson, that the State of Florida would have one vote as an active member, and the CIO of the Department of Information Technologies shall appoint the active member.

- Third order of business, election of officers. Note: voting members changed as attendees left or entered the meting.

Floor was opened for nominations of officers:

Nomination for Chairman: 1, Mark Pallans, placed by Ben Holycross and seconded by Jose Otero. 2, Tom Sorley, placed by Mr. Sorley and seconded by Carlton Wells. Voting was taken, Mr. Pallans 11 votes, Mr. Sorley 3 votes. 2001 Chairman is Mr. Pallans.

Nomination for Vice-Chairman: 1, Gill Lineberry by Eric Conklin seconded by Terress Nehring. 2, Ray Carlson by Ben Holycross, seconded by Mark Pallans. 3. Tom Sorley, declined. Voting was taken, Mr. Lineberry received 8 votes, Mr. Carlson received 9 votes. Vice-Chairman for 2001 is Mr. Carlson.

Nominations for Treasure: One nominee, Pam Montanari was placed on the floor by Terry Nehring and seconded by Marl Pallans. Carlson Well declined nomination. Unanimous approval.

Nominations for Secretary: One nominee, Gill Lineberry, was placed on the floor by Ray Carlson and seconded by Ben Holycross. Unanimous approval.

- Forth order of business, election of sub-region chairmen.

Subregion 1: Kevin Sewell, nominated by Marl Pallans and seconded by Ray Carlson.

Subregion 2: Linden McGruder, nominated by Jerry Kesteler and seconded by Terry Nehring.

Subregion 3: Earl Hoffay, nominated by Marl Pallans and seconded by Kevin????

Subregion 4: Tom Sorley, nominated by Ray Carlson and seconded by Marl Pallans

Subregion 5 Ben Holycross, nominated by Mark Pallans and seconded by Paul???

Subregion 6: Paul Winter, nominated by Mark Pallans and seconded by Ben Holycross.

Subregion 7: Jose Othero, nominated by Mark Pallans and seconded by Ben Holycross.

Subregion 8: Carlton Wells, appointed by the State.

All Subregion offices were voted in and accepted.

- Fifth order of business, NCC update.

Marlyn Ward of Orange County, Carlton Wells from the State of Florida and Mark Pallans presented the latest status of the NCC committees.

- Sixth order of business, funding.

Pam Montanari, treasure stated that a request was made to the Federal offices on March 14, 2001 for the $2,000 in funding due the Committee to off set business expenses.

- Seventh order of business, Open Discussion.

Discussion on the question of eligibility was floored. After lengthily review, Mr. Gill Lineberry placed a motion, seconded by Pam Montanari, on the floor that any agency with a FCC Universal Licensing System identifier (ULS) will be the voting member representing all agencies that fall under that specific ULS ID number. Motion passed. The by-laws will be modified accordingly.

Meeting was recorded on videotape for archival records and accuracy.

Meeting was adjourned at 12:00 noon by Mr. Pallans

THE FLORIDA
REGION COMMITTEE
(700 MHz Planning)
Federal Communications Commission Region 9

REGION MEETING
May 6, 2002
3 AGENDA

1. Introduction of Sub-region Chairmen
2. Introduction of special guests
3. Minutes of previous meeting
4. Treasurer's report
5. Status of National Plans
6. Status of National Database
7. Other Business
8. Open floor
9. Election of Officers

The Florida Region 9/700 Committee

Minutes, Annual Meeting May 6, 2002

Cape Canaveral, Florida

- Introduction of Board Members:

Mark Pallans, Chairman
Ray Carlson, Vice-Chairman
Pam Montanari, Treasure
Secretary, Vacant

- Introduction of Sub-Region Members:

Sub-Region 1: Kevin Sowell, Santa Rosa County
Sub-Region 2: Linden McGruder
Sub-Region 3: Earl Hoffay, City of Jacksonville
Sub-Region 4: Tom Sorley, Orange County
Sub-Region 5: Ben Holycross, Polk County
Sub-Region 6: Paul Winter, Charlotte County
Sub-Region 7: Jose Othero, Miami-Dade County
Sub-Region 8: Florida State Technology Office, at large

- Introductions of attendees, 27 visitors, Mark Pallans
- Handout out CD's with 700 committee data and past meeting notes, Ray Carlson
- Treasures report, Pam Montanari:

Starting balance $2,500
Current Balance $2,272.92

- Report on NPSTIC, Marylin Ward, Orange County Public Safety
- Chairman's report, Mark Pallans, NCC meeting held in New York.
- Report on NEXTEL NPRM, Mark Pallans
- Status of National Plan, Mark Pallans
- Questions from the floor on the 700 Mhz. committee plan

- Attendees that wish to work on the 700 Mhz project were asked to contact Mark Pallans at markp@ci.fort-lauderdale.fl.us.

- Elections:

Treasure: Nominations, Pam Montanari, by Ben Holycross, 2th by Ray Carlson, Unanimous vote

Secretary: No nominees.

Vice Chair: Nomination of Ray Carlson by Ben Holycross, second by an unknown speaker, Unanimous vote.

Sub-Region Chairman positions:

Motion by Pam Montanari that all subs be reappointed for the next term. Seconded by Ben Holycross. Discussion, no Sub-Regional Chairmen declined the nomination, no other attendee volunteered to chair a Sub-Region, nor were any other nominations made form the floor. Sub-Region 8 was defined as an assigned position with the State Technology Office appointing a person to fill the position. Unanimous vote.

Chairman: Nomination of Mark Pallans by Ben Holycross, second by Jose Othero, discussion, Unanimous vote.

- Floor open for new issues.

Motion by Ben Holycross and seconded by Mr. Pallans that the Region by-laws be amended to change the election of officers to be withheld until the Region 9/700 plan is approved by the FCC. Discussion was held and vote passed in favor of the by-law changes. The Region by-laws will be modified to reflect the vote and become amendment #2, dated May 6, 2003.

Discussion on Proxy voting from Sub-Region 7, Jose Othero. Review of by-laws establishing proxy voting by the Chair.

Floor discussion on the Housed and Senate positions of the 700 Mhz. actions and timelines. Carlton Wells

- Closing comments, Mark Pallans

- Motion to adjourned

- Submitted by:

Ray Carlson, Vice-Chairman, Florida Region 9/700 Committee.

Florida 700 MHz Committee
FCC Region 9
Meeting Announcement

The Florida 700MHz Committee will hold a Region Committee meeting on Monday, May 19, 2003 in Sarasota, Florida in conjunction with the APCO Florida Chapter meeting. The meeting will take place at 10:30 AM at the Sarasota Hyatt Hotel. The room will be indicated in the hotel lobby. The primary agenda items include; current status of 700 MHz licensing, the current status of the Florida Region Plan for 700 MHz, an explanation of CAPRAD, formation of a region technical committee, formation of a committee to develop a needs assessment questionnaire and other items that may arise. A formal agenda will be provided on the day of the meeting. Following the formal meeting, members of the Committee will provide a training session in the use of the CAPRAD frequency allotment software developed by NLECT. All committee members, potential major system users, frequency coordinators, equipment vendors and other interested parties are invited to attend this session. An understanding of the CAPRAD system is a necessity for the future allocation of 700 MHz band frequencies within the

State of Florida. **IMPORTANT NOTE**: Those wishing to attend the training session **must** register in advance to insure a seat. For more information contact Mark D. Pallans, Telecommunications Manager, City of Fort Lauderdale, 100 North Andrews Avenue, Fort Lauderdale, FL 33301. Phone 954.828.5791. E-mail markp@ci.fort-lauderdale.fl.us.

THE FLORIDA
REGION 9 COMMITTEE
(700 MHz Planning)

REGION CHAIRMAN
Mr. Mark D. Pallans

Telecommunications Manager
City of Phoenix

REGION VICE CHAIRMAN
Mr. Ray Carlson
Administrative Officer
(602) 262-7034
Palm Beach County Sheriff's Office
mark.pallans@phonix.gov

3228 Gun Club Road

West Palm Beach, Florida 33406

(561) 688-3514, SC 266-3514

FAX (561) 688-3778, SC 266-3778

carlsonr@pbso.org

May 1, 2004

RE: Minutes of May 13, 2003
Annual Meeting

The 2003 annual meeting of the Florida Region 9/700 Committee was held on May 19, 2003 in Sarasota Florida. These are the condensed meeting minutes. A complete copy is archived on VHS videotape for additional reference.

- Introduction – Mark Pallans.

Mr. Pallans introduced the Officers and Regional Directors of the Florida Region 9/700 Committee. A complete sign in roster is attached for reference.

- Mr. Pallans moderated current Status of the 700 Mhz program and the directions that the FCC have taken in the last year. Extensive discussion was held on the prognosis that may occur in the next 2-3 years.

- Mr. Pallans presented the current Region by-laws and reviewed the contents with the attendees.

During the discussion on the by-laws, the elections of officers were addressed. The concept was that replacing Officers or regional Directors yearly during the development process was self-defeating in nature.

Mr. Pallans placed a motion on the floor, seconded by Mr. Holycross, that Article III, Section 3.2 be modified to read that elections would be suspended until the first annual meeting after the FCC approval of a valid Region plan. Floor was opened for discussions. Motion was voted on and passed. The Current Region 9-700 By-Laws have been modified to reflect the motion and vote. The By-Laws are thus identified as "Amendment 1".

Mr. Pallans introduced the concept of having a "Technical Committee" within the Region group to assist in the assessment and development of the plan and initial system loading design.

A floor discussion was held on the possible job duties and the requirements of the technical committee members. A sign in list for those desiring to be on the committee was circulated. The attendees that desire to work on the Tech Committee are attached for reference.

Mr. Pallans presented a detailed introduction of the Federal CAPRAD program. This included the method and how access was granted, the training needed, and the overall concept of the program's database.

Funding for training and current activities was discussed as a open topic by the attendees and the Chairman. Notice was presented that any further funding from the DOJ grant system may not be forthcoming. All participants were advised that they would have to bear the burden of individual expenses until new Federal funding is acquired.

The floor was opened for new business. There was no new business

Meeting was adjourned at 11:30 AM, to reconvene at 1:00 PM for a hands on detailed demonstration of the CAPRAD system on-line.

Submitted this Date by Ray Carlson, Vice-Chairman

Florida 700 MHz Committee
FCC Region 9
Meeting Announcement

The Florida 700MHz Committee will hold a Region Committee meeting on Friday, May 7, 2004 in Jacksonville, Florida in conjunction with the APCO Florida Chapter meeting. The meeting will take place at 10:00 AM at the Adams Mark Hotel 225 Coast Line Drive East. The room will be indicated in the hotel lobby. The primary agenda items include; current status of 700 MHz licensing, the current status of the Florida Region Plan for 700 MHz, an explanation of CAPRAD, annual business duties of the Regional Committee, and election of Officers. A formal agenda will be provided on the day of the meeting. All committee members, potential major system users, frequency coordinators, equipment vendors and other interested parties are invited to attend this session. For more information contact Ray Carlson, Vice-Chairman, Florida Region 9/700 Committee. 3228 Gun Club Road, West Palm Beach, FL. 33406. (561) 688-3514 E-mail **carlsonr@pbso.org**

REGION CHAIRMAN
Mr. Ray Carlson
Commander
PBC Sheriff's Office
3228 Gun Club Road
W. Palm Beach, Florida 33406
(561) 688-3514, SC 266-3514
FAX (561) 688-3778, SC 266-3778
carlsonr@pbso.org

REGION VICE CHAIRMAN
Mr. Jose Otero, PMP Director
Strategic Information Services Div
5680 SW 87 Ave
Miami, FL 33173
(305) 596-8409
FAX (305) 596-8774
JFO@miamidade.gov

THE FLORIDA
REGION 9 COMMITTEE
(700 MHz Planning)

May 12, 2004

MINUTES OF THE ANNUAL MEETING MAY 7, 2004

The annual meeting of the Florida Region 9/700 Committee was scheduled for May 7, 2004 at the Adams Mark Hotel, Jacksonville, Florida.

The meeting convened at 10:00 AM with an introduction of the current officers and special guests.

The minutes of the previous meeting were read and adopted by majority vote of the attendees present. A CD was distributed to all attendees that contained all the 700 planning committee documents to date.

The second agenda item was the election of officers. The previous Chairman, Mr. Mark Pallans had resigned on May 6, 2004 and relocated to the west coast. As provided by the by-laws, the Chairman's position was therefore vacant and subject to reelection during the next annual conference.

The floor was opened for nominations. Mr. Ray Carlson, the current Vice-Chairman was the only nomination by Mr. Jose Otero, with a second by Mr. Ben Holycross. The nominations were closed and the attendees elected Mr. Carlson unanimously.

Ms. Pam Montanery, the Committees treasure gave the committees current balance and spending report to the meeting. The treasures report was accepted by a majority vote of the attendees.

Chairman Carlson opened the floor for discussion of the NEXTEL NPRM.

Florida 700 MHz Committee
FCC Region 9
Meeting Announcement

The Florida 700MHz Committee will hold a Region Committee meeting on Monday, May 16, 2005 in Jacksonville, Florida in conjunction with the APCO Florida Chapter meeting. The meeting will take place at 1:00 PM at the Adams Mark Hotel 225 Coast Line Drive East. The room will be indicated in the hotel lobby. The primary agenda items include; current status of 700 MHz licensing, the current status of the Florida Region Plan for 700 MHz, an explanation of CAPRAD, annual business duties of the Regional Committee, and election of Officers.
A formal agenda will be provided on the day of the meeting. All committee members, potential major system users, frequency coordinators, equipment vendors and other interested parties are invited to attend this session. For more information contact Ray Carlson, Chairman, Florida Region 9/700 Committee. 3228 Gun Club Road, West Palm Beach, FL. 33406. (561) 688-3514 E-mail **carlsonr@pbso.org**

REGION CHAIRMAN
Mr. Ray Carlson
Division Manager

REGION VICE CHAIRMAN
Mr. Jose R. Perez
Regional Communications Systems Manager

THE FLORIDA
REGION COMMITTEE
(700 MHz Planning)

PBC Sheriff's Office
2601 W. Broward BLV
3228 Gun Club Road
Fort Lauderdale, FL 33312
W. Palm Beach, Florida 33406
((954) 321 4715
(561) 688-3514, SC 266-3514
FAX (954) 321-5090
FAX (561) 688-3778, SC 266-3778
Jose_PEREZ2@sheriff.org
carlsonr@pbso.org

June 2, 2006

Minutes of Region 9, 700 Mhz. Planning Committee meeting, May 1, 2006 @ 1 :00 PM
Hutchinson Island Marriott Resort, Jensen Beach, Stewart Florida

- Meeting was called to order at 1:15 PM by the Chairman.
- Introduction of Officers by Ray Carlson, Chairman
- Elections of Officers
- Resignation of Jose Othero,
- Nomination of Jose P by Leven Magruder, seconded by Benn Holycross.
- Discussion of the CAPRAD system. Including the description of CAPRAD and how it works.
- Review of the initial packing plan. Review of valid region Plans that have been accepted and approved by the FCC.
- Discussion of the region 9 plan and a review of the contents.
- Treasures report was submitted. Discussion and vote to accept was performed. Current balance $442.70
- Questions from the floor.
- Meeting adjourned.

Appendix F-Region 9 Channel Allotments

Region 9 - Florida

Channel Allotments

County					
	Class	Band Width	FCC Channel	Base Frequency	Mobile Frequency

			Number			
Alachua	General Use	Voice 25KHz	57-60	769.362500	799.362500	
	General Use	Voice 25KHz	129-132	769.812500	799.812500	
	General Use	Voice 25KHz	169-172	770.062500	800.062500	
	General Use	Voice 25KHz	241-244	770.512500	800.512500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	357-360	771.237500	801.237500	
	General Use	Voice 25KHz	409-412	771.562500	801.562500	
	General Use	Voice 25KHz	449-452	771.812500	801.812500	
	General Use	Voice 25KHz	517-520	772.237500	802.237500	
	General Use	Voice 25KHz	589-592	772.687500	802.687500	
	General Use	Voice 25KHz	629-632	772.937500	802.937500	
	General Use	Voice 25KHz	705-708	773.412500	803.412500	
	General Use	Voice 25KHz	753-756	773.712500	803.712500	
	General Use	Voice 25KHz	829-832	774.187500	804.187500	
	General Use	Voice 25KHz	869-872	774.437500	804.437500	
	General Use	Voice 25KHz	909-912	774.687500	804.687500	
Baker	General Use	Voice 25KHz	337-340	771.112500	801.112500	
	General Use	Voice 25KHz	401-404	771.512500	801.512500	
	General Use	Voice 25KHz	545-548	772.412500	802.412500	
	General Use	Voice 25KHz	585-588	772.662500	802.662500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	901-904	774.637500	804.637500	

Bay	General Use	Voice 25KHz	41-44	769.262500	799.262500	
	General Use	Voice 25KHz	81-84	769.512500	799.512500	
	General Use	Voice 25KHz	121-124	769.762500	799.762500	
	General Use	Voice 25KHz	165-168	770.037500	800.037500	
	General Use	Voice 25KHz	205-208	770.287500	800.287500	
	General Use	Voice 25KHz	281-284	770.762500	800.762500	
	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	381-384	771.387500	801.387500	
	General Use	Voice 25KHz	445-448	771.787500	801.787500	
	General Use	Voice 25KHz	509-512	772.187500	802.187500	
	General Use	Voice 25KHz	581-584	772.637500	802.637500	
	General Use	Voice 25KHz	625-628	772.912500	802.912500	
	General Use	Voice 25KHz	665-668	773.162500	803.162500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	
	General Use	Voice 25KHz	861-864	774.387500	804.387500	
	General Use	Voice 25KHz	901-904	774.637500	804.637500	
	General Use	Voice 25KHz	941-944	774.887500	804.887500	
Bradford	General Use	Voice 25KHz	421-424	771.637500	801.637500	
	General Use	Voice 25KHz	469-472	771.937500	801.937500	
	General Use	Voice 25KHz	561-564	772.512500	802.512500	
	General Use	Voice 25KHz	601-604	772.762500	802.762500	

	General Use	Voice 25KHz	669-672	773.187500	803.187500	
Brevard	General Use	Voice 25KHz	45-48	769.287500	799.287500	
	General Use	Voice 25KHz	93-96	769.587500	799.587500	
	General Use	Voice 25KHz	205-208	770.287500	800.287500	
	General Use	Voice 25KHz	285-288	770.787500	800.787500	
	General Use	Voice 25KHz	333-336	771.087500	801.087500	
	General Use	Voice 25KHz	381-384	771.387500	801.387500	
	General Use	Voice 25KHz	461-464	771.887500	801.887500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	557-560	772.487500	802.487500	
	General Use	Voice 25KHz	605-608	772.787500	802.787500	
	General Use	Voice 25KHz	665-668	773.162500	803.162500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
Broward	General Use	Voice 25KHz	41-44	769.262500	799.262500	
	General Use	Voice 25KHz	89-92	769.562500	799.562500	
	General Use	Voice 25KHz	129-132	769.812500	799.812500	
	General Use	Voice 25KHz	169-172	770.062500	800.062500	
	General Use	Voice 25KHz	241-244	770.512500	800.512500	
	General Use	Voice 25KHz	289-292	770.812500	800.812500	
	General Use	Voice 25KHz	329-332	771.062500	801.062500	

	General Use	Voice 25KHz	369-372	771.312500	801.312500	
	General Use	Voice 25KHz	409-412	771.562500	801.562500	
	General Use	Voice 25KHz	457-460	771.862500	801.862500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	573-576	772.587500	802.587500	
	General Use	Voice 25KHz	617-620	772.862500	802.862500	
	General Use	Voice 25KHz	661-664	773.137500	803.137500	
	General Use	Voice 25KHz	709-712	773.437500	803.437500	
	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
	General Use	Voice 25KHz	861-864	774.387500	804.387500	
	General Use	Voice 25KHz	901-904	774.637500	804.637500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Calhoun	General Use	Voice 25KHz	357-360	771.237500	801.237500	
	General Use	Voice 25KHz	497-500	772.112500	802.112500	
	General Use	Voice 25KHz	545-548	772.412500	802.412500	
	General Use	Voice 25KHz	593-596	772.712500	802.712500	
	General Use	Voice 25KHz	709-712	773.437500	803.437500	
	General Use	Voice 25KHz	909-912	774.687500	804.687500	
Charlotte	General Use	Voice 25KHz	97-100	769.612500	799.612500	
	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	177-180	770.112500	800.112500	

	General Use	Voice 25KHz	241-244	770.512500	800.512500	
	General Use	Voice 25KHz	285-288	770.787500	800.787500	
	General Use	Voice 25KHz	333-336	771.087500	801.087500	
	General Use	Voice 25KHz	385-388	771.412500	801.412500	
	General Use	Voice 25KHz	433-436	771.712500	801.712500	
	General Use	Voice 25KHz	525-528	772.287500	802.287500	
	General Use	Voice 25KHz	565-568	772.537500	802.537500	
	General Use	Voice 25KHz	609-612	772.812500	802.812500	
	General Use	Voice 25KHz	661-664	773.137500	803.137500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	
	General Use	Voice 25KHz	793-796	773.962500	803.962500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
Citrus	General Use	Voice 25KHz	125-128	770.787500	804.787500	
	General Use	Voice 25KHz	177-180	770.112500	800.112500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	325-328	771.037500	801.037500	
	General Use	Voice 25KHz	393-396	771.462500	801.462500	
	General Use	Voice 25KHz	433-436	771.712500	801.712500	
	General Use	Voice 25KHz	489-492	772.062500	802.062500	
	General Use	Voice 25KHz	529-532	772.312500	802.312500	
	General Use	Voice 25KHz	605-608	772.787500	802.787500	
	General Use	Voice 25KHz	793-796	773.962500	803.962500	

	General Use	Voice 25KHz	833-836	774.212500	804.212500	
	General Use	Voice 25KHz	913-916	774.712500	804.712500	
Clay	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	97-100	769.612500	799.612500	
	General Use	Voice 25KHz	205-208	770.287500	800.287500	
	General Use	Voice 25KHz	281-284	770.762500	800.762500	
	General Use	Voice 25KHz	365-368	771.287500	801.287500	
	General Use	Voice 25KHz	429-432	771.687500	801.687500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	609-612	772.812500	802.812500	
	General Use	Voice 25KHz	661-664	773.137500	803.137500	
	General Use	Voice 25KHz	745-748	773.662500	803.662500	
	General Use	Voice 25KHz	789-792	773.937500	803.937500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Collier	General Use	Voice 25KHz	49-52	769.312500	799.312500	
	General Use	Voice 25KHz	201-204	770.262500	800.262500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	349-352	771.187500	801.187500	
	General Use	Voice 25KHz	389-392	771.437500	801.437500	
	General Use	Voice 25KHz	465-468	771.912500	801.912500	
	General Use	Voice 25KHz	501-504	772.137500	802.137500	
	General Use	Voice 25KHz	553-556	772.462500	802.462500	

	General Use	Voice 25KHz	593-596	772.712500	802.712500	
	General Use	Voice 25KHz	637-640	772.987500	802.987500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	
Columbia	General Use	Voice 25KHz	41-44	769.262500	799.262500	
	General Use	Voice 25KHz	121-124	769.762500	799.762500	
	General Use	Voice 25KHz	209-212	770.312500	800.312500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	369-372	771.312500	801.312500	
	General Use	Voice 25KHz	441-444	771.762500	801.762500	
	General Use	Voice 25KHz	505-508	772.162500	802.162500	
	General Use	Voice 25KHz	553-556	772.462500	802.462500	
	General Use	Voice 25KHz	617-620	772.862500	802.862500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
Dade	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	57-60	769.362500	799.362500	
	General Use	Voice 25KHz	97-100	769.612500	799.612500	
	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	177-180	770.112500	800.112500	
	General Use	Voice 25KHz	217-220	770.362500	800.362500	

	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	337-340	771.112500	801.112500	
	General Use	Voice 25KHz	377-380	771.362500	801.362500	
	General Use	Voice 25KHz	437-440	771.737500	801.737500	
	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	481-484	772.012500	802.012500	
	General Use	Voice 25KHz	521-524	772.262500	802.262500	
	General Use	Voice 25KHz	561-564	772.512500	802.512500	
	General Use	Voice 25KHz	601-604	772.762500	802.762500	
	General Use	Voice 25KHz	669-672	773.187500	803.187500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	785-788	773.912500	803.912500	
	General Use	Voice 25KHz	829-832	774.187500	804.187500	
	General Use	Voice 25KHz	873-876	774.462500	804.462500	
	General Use	Voice 25KHz	913-916	774.712500	804.712500	
De Soto	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	453-456	771.837500	801.837500	
	General Use	Voice 25KHz	497-500	772.112500	802.112500	
	General Use	Voice 25KHz	549-552	772.437500	802.437500	
	General Use	Voice 25KHz	601-604	772.762500	802.762500	
	General Use	Voice 25KHz	753-756	773.712500	803.712500	
Dixie	General Use	Voice 25KHz	253-256	770.587500	800.587500	

	General Use	Voice 25KHz	293-296	771.837500	800.837500	
	General Use	Voice 25KHz	353-356	771.212500	801.212500	
	General Use	Voice 25KHz	437-440	771.737500	801.737500	
	General Use	Voice 25KHz	557-560	772.487500	802.487500	
	General Use	Voice 25KHz	609-612	772.812500	802.812500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	
	General Use	Voice 25KHz	785-788	773.912500	803.912500	
	General Use	Voice 25KHz	825-828	774.162500	804.162500	
Duval	General Use	Voice 25KHz	45-48	769.287500	799.287500	
	General Use	Voice 25KHz	85-88	769.537500	799.537500	
	General Use	Voice 25KHz	125-128	769.787500	799.787500	
	General Use	Voice 25KHz	173-176	770.087500	800.087500	
	General Use	Voice 25KHz	213-216	770.337500	800.337500	
	General Use	Voice 25KHz	289-292	770.812500	800.812500	
	General Use	Voice 25KHz	329-332	771.062500	801.062500	
	General Use	Voice 25KHz	373-376	771.337500	801.337500	
	General Use	Voice 25KHz	437-440	771.737500	801.737500	
	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	481-484	772.012500	802.012500	
	General Use	Voice 25KHz	521-524	772.262500	802.262500	
	General Use	Voice 25KHz	593-596	772.712500	802.712500	
	General Use	Voice 25KHz	633-636	772.962500	802.962500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	

	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
	General Use	Voice 25KHz	917-920	774.737500	804.737500	
Escambia	General Use	Voice 25KHz	45-48	769.287500	799.287500	
	General Use	Voice 25KHz	85-88	769.537500	799.537500	
	General Use	Voice 25KHz	125-128	769.787500	799.787500	
	General Use	Voice 25KHz	165-168	770.037500	800.037500	
	General Use	Voice 25KHz	209-212	770.312500	800.312500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	289-292	770.812500	800.812500	
	General Use	Voice 25KHz	329-332	771.062500	801.062500	
	General Use	Voice 25KHz	369-372	771.312500	801.312500	
	General Use	Voice 25KHz	413-416	771.587500	801.587500	
	General Use	Voice 25KHz	457-460	771.862500	801.862500	
	General Use	Voice 25KHz	489-492	772.062500	802.062500	
	General Use	Voice 25KHz	537-540	772.362500	802.362500	
	General Use	Voice 25KHz	577-580	772.612500	802.612500	
	General Use	Voice 25KHz	629-632	772.937500	802.937500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	745-748	773.662500	803.662500	
	General Use	Voice 25KHz	789-792	773.937500	803.937500	

	General Use	Voice 25KHz	829-832	774.187500	804.187500	
	General Use	Voice 25KHz	901-904	774.637500	804.637500	
	General Use	Voice 25KHz	941-944	774.887500	804.887500	
Flagler	General Use	Voice 25KHz	285-288	770.787500	800.787500	
	General Use	Voice 25KHz	333-336	771.087500	801.087500	
	General Use	Voice 25KHz	389-392	771.437500	801.437500	
	General Use	Voice 25KHz	441-444	771.762500	801.762500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	557-560	772.487500	802.487500	
	General Use	Voice 25KHz	605-608	772.787500	802.787500	
	General Use	Voice 25KHz	665-668	773.162500	803.162500	
	General Use	Voice 25KHz	793-796	773.962500	803.962500	
	General Use	Voice 25KHz	833-836	774.212500	804.212500	
	General Use	Voice 25KHz	873-876	774.462500	804.462500	
Franklin	General Use	Voice 25KHz	129-132	769.812500	799.812500	
	General Use	Voice 25KHz	241-244	770.512500	800.512500	
	General Use	Voice 25KHz	293-296	770.837500	800.837500	
	General Use	Voice 25KHz	361-364	771.262500	801.262500	
	General Use	Voice 25KHz	421-424	771.637500	801.637500	
	General Use	Voice 25KHz	473-476	771.962500	801.962500	
	General Use	Voice 25KHz	501-504	772.137500	802.137500	
	General Use	Voice 25KHz	557-560	772.487500	802.487500	
	General Use	Voice 25KHz	633-636	772.962500	802.962500	

	General Use	Voice 25KHz	705-708	773.412500	803.412500	
	General Use	Voice 25KHz	749-752	773.687500	803.687500	
	General Use	Voice 25KHz	789-792	773.937500	803.937500	
	General Use	Voice 25KHz	913-916	774.712500	804.712500	
Gadsden	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	213-216	770.337500	800.337500	
	General Use	Voice 25KHz	325-328	771.037500	801.037500	
	General Use	Voice 25KHz	405-408	771.537500	801.537500	
	General Use	Voice 25KHz	457-460	771.862500	801.862500	
	General Use	Voice 25KHz	505-508	772.162500	802.162500	
	General Use	Voice 25KHz	553-556	772.462500	802.462500	
	General Use	Voice 25KHz	629-632	772.937500	802.937500	
	General Use	Voice 25KHz	669-672	773.187500	803.187500	
	General Use	Voice 25KHz	785-788	773.912500	803.912500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
Gilchrist	General Use	Voice 25KHz	93-96	763.587500	793.587500	
	General Use	Voice 25KHz	285-288	770.787500	800.787500	
	General Use	Voice 25KHz	377-380	771.362500	801.362500	
	General Use	Voice 25KHz	417-420	771.612500	801.612500	
	General Use	Voice 25KHz	461-464	771.887500	801.887500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	

	General Use	Voice 25KHz	917-920	774.737500	804.737500	
Glades	General Use	Voice 25KHz	353-356	771.212500	801.212500	
	General Use	Voice 25KHz	421-424	771.637500	801.637500	
	General Use	Voice 25KHz	461-464	771.887500	801.887500	
	General Use	Voice 25KHz	505-508	772.162500	802.162500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
Gulf	General Use	Voice 25KHz	17-20	769.112500	799.112500	
	General Use	Voice 25KHz	57-60	769.362500	799.362500	
	General Use	Voice 25KHz	217-220	770.362500	800.362500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	329-332	771.062500	801.062500	
	General Use	Voice 25KHz	369-372	771.312500	801.312500	
	General Use	Voice 25KHz	413-416	771.587500	801.587500	
	General Use	Voice 25KHz	461-464	771.887500	801.887500	
	General Use	Voice 25KHz	525-528	772.287500	802.287500	
	General Use	Voice 25KHz	565-568	772.537500	802.537500	
	General Use	Voice 25KHz	617-620	772.862500	802.862500	
	General Use	Voice 25KHz	673-676	773.212500	803.212500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	833-836	774.212500	804.212500	
	General Use	Voice 25KHz	873-876	774.462500	804.462500	
Hamilton	General Use	Voice 25KHz	217-220	770.362500	800.362500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	

	General Use	Voice 25KHz	405-408	771.537500	801.537500	
	General Use	Voice 25KHz	541-544	772.387500	802.387500	
	General Use	Voice 25KHz	581-584	772.637500	802.637500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
Hardee	General Use	Voice 25KHz	281-284	770.762500	800.762500	
	General Use	Voice 25KHz	349-352	771.187500	801.187500	
	General Use	Voice 25KHz	393-396	771.462500	801.462500	
	General Use	Voice 25KHz	445-448	771.787500	801.787500	
	General Use	Voice 25KHz	489-492	772.062500	802.062500	
	General Use	Voice 25KHz	529-532	772.312500	802.312500	
Hendry	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	361-364	771.262500	801.262500	
	General Use	Voice 25KHz	401-404	771.512500	801.512500	
	General Use	Voice 25KHz	441-444	771.762500	801.762500	
	General Use	Voice 25KHz	545-548	772.412500	802.412500	
	General Use	Voice 25KHz	585-588	772.662500	802.662500	
	General Use	Voice 25KHz	625-628	772.912500	802.912500	
Hernando	General Use	Voice 25KHz	93-96	769.587500	799.587500	
	General Use	Voice 25KHz	133-136	769.837500	799.837500	
	General Use	Voice 25KHz	293-296	770.837500	800.837500	
	General Use	Voice 25KHz	353-356	771.212500	801.212500	
	General Use	Voice 25KHz	405-408	771.537500	801.537500	
	General Use	Voice 25KHz	461-464	771.887500	801.887500	

	General Use	Voice 25KHz	505-508	772.162500	802.162500	
	General Use	Voice 25KHz	569-572	772.562500	802.562500	
	General Use	Voice 25KHz	613-616	772.837500	802.837500	
	General Use	Voice 25KHz	753-756	773.712500	803.712500	
	General Use	Voice 25KHz	825-828	774.162500	804.162500	
	General Use	Voice 25KHz	869-872	774.437500	804.437500	
Highlands	General Use	Voice 25KHz	57-60	769.362500	799.362500	
	General Use	Voice 25KHz	217-220	770.362500	800.362500	
	General Use	Voice 25KHz	325-328	771.037500	801.037500	
	General Use	Voice 25KHz	365-368	771.287500	801.287500	
	General Use	Voice 25KHz	409-412	771.562500	801.562500	
	General Use	Voice 25KHz	469-472	771.937500	801.937500	
	General Use	Voice 25KHz	481-484	772.012500	802.012500	
	General Use	Voice 25KHz	541-544	772.387500	802.387500	
	General Use	Voice 25KHz	581-584	772.637500	802.637500	
	General Use	Voice 25KHz	621-624	772.887500	802.887500	
	General Use	Voice 25KHz	745-748	773.662500	803.662500	
	General Use	Voice 25KHz	829-832	774.187500	804.187500	
	General Use	Voice 25KHz	909-912	774.687500	804.687500	
Hillsborough	General Use	Voice 25KHz	45-48	769.287500	799.287500	
	General Use	Voice 25KHz	89-92	769.562500	799.562500	
	General Use	Voice 25KHz	129-132	769.812500	799.812500	
	General Use	Voice 25KHz	173-176	770.087500	800.087500	

	General Use	Voice 25KHz	213-216	770.337500	800.337500	
	General Use	Voice 25KHz	253-256	770.587500	800.587500	
	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	369-372	771.312500	801.312500	
	General Use	Voice 25KHz	437-440	771.737500	801.737500	
	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	501-504	772.137500	802.137500	
	General Use	Voice 25KHz	557-560	772.487500	802.487500	
	General Use	Voice 25KHz	625-628	772.912500	802.912500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	
	General Use	Voice 25KHz	861-864	774.387500	804.387500	
	General Use	Voice 25KHz	901-904	774.637500	804.637500	
	General Use	Voice 25KHz	941-944	774.887500	804.887500	
Holmes	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	377-380	771.362500	801.362500	
	General Use	Voice 25KHz	505-508	772.162500	802.162500	
	General Use	Voice 25KHz	553-556	772.462500	802.462500	
	General Use	Voice 25KHz	597-600	772.737500	802.737500	
	General Use	Voice 25KHz	661-664	773.137500	803.137500	

Indian River	General Use	Voice 25KHz	133-136	769.837500	799.837500	
	General Use	Voice 25KHz	177-180	770.112500	800.112500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	361-364	771.262500	801.262500	
	General Use	Voice 25KHz	405-408	771.537500	801.537500	
	General Use	Voice 25KHz	449-452	771.812500	801.812500	
	General Use	Voice 25KHz	501-504	772.137500	802.137500	
	General Use	Voice 25KHz	585-588	772.662500	802.662500	
	General Use	Voice 25KHz	625-628	772.912500	802.912500	
	General Use	Voice 25KHz	785-788	773.912500	803.912500	
	General Use	Voice 25KHz	825-828	774.162500	804.162500	
	General Use	Voice 25KHz	913-916	774.712500	804.712500	
Jackson	General Use	Voice 25KHz	49-52	769.312500	799.312500	
	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	253-256	770.587500	800.587500	
	General Use	Voice 25KHz	365-368	771.287500	801.287500	
	General Use	Voice 25KHz	429-432	771.687500	801.687500	
	General Use	Voice 25KHz	469-472	771.937500	801.937500	
	General Use	Voice 25KHz	481-484	772.012500	802.012500	
	General Use	Voice 25KHz	529-532	772.312500	802.312500	
	General Use	Voice 25KHz	605-608	772.787500	802.787500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	

	General Use	Voice 25KHz	745-748	773.662500	803.662500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
	General Use	Voice 25KHz	869-872	774.437500	804.437500	
	General Use	Voice 25KHz	917-920	774.737500	804.737500	
Jefferson	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	385-388	771.412500	801.412500	
	General Use	Voice 25KHz	469-472	771.937500	801.937500	
	General Use	Voice 25KHz	517-520	772.237500	802.237500	
	General Use	Voice 25KHz	565-568	772.537500	802.537500	
	General Use	Voice 25KHz	621-624	772.887500	802.887500	
Lafayette	General Use	Voice 25KHz	53-56	769.337500	799.337500	
	General Use	Voice 25KHz	173-176	770.087500	800.087500	
	General Use	Voice 25KHz	429-432	771.687500	801.687500	
	General Use	Voice 25KHz	521-524	772.262500	802.262500	
	General Use	Voice 25KHz	569-572	772.562500	802.562500	
	General Use	Voice 25KHz	625-628	772.912500	802.912500	
Lake	General Use	Voice 25KHz	41-44	769.262500	799.262500	
	General Use	Voice 25KHz	209-212	770.312500	800.312500	
	General Use	Voice 25KHz	281-284	770.762500	800.762500	
	General Use	Voice 25KHz	329-332	771.062500	801.062500	
	General Use	Voice 25KHz	445-448	771.787500	801.787500	
	General Use	Voice 25KHz	481-484	772.012500	802.012500	
	General Use	Voice 25KHz	553-556	772.462500	802.462500	

	General Use	Voice 25KHz	601-604	772.762500	802.762500	
Lee	General Use	Voice 25KHz	41-44	769.262500	799.262500	
	General Use	Voice 25KHz	89-92	769.562500	799.562500	
	General Use	Voice 25KHz	165-168	770.037500	800.037500	
	General Use	Voice 25KHz	213-216	770.337500	800.337500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	341-344	771.137500	801.137500	
	General Use	Voice 25KHz	413-416	771.587500	801.587500	
	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	573-576	772.587500	802.587500	
	General Use	Voice 25KHz	617-620	772.862500	802.862500	
	General Use	Voice 25KHz	669-672	773.187500	803.187500	
	General Use	Voice 25KHz	709-712	773.437500	803.437500	
	General Use	Voice 25KHz	749-752	773.687500	803.687500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Leon	General Use	Voice 25KHz	41-44	769.262500	799.262500	
	General Use	Voice 25KHz	81-84	769.512500	799.512500	

	General Use	Voice 25KHz	133-136	769.837500	799.837500	
	General Use	Voice 25KHz	201-204	770.262500	800.262500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	337-340	771.112500	801.112500	
	General Use	Voice 25KHz	377-380	771.362500	801.362500	
	General Use	Voice 25KHz	417-420	771.612500	801.612500	
	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	573-576	772.587500	802.587500	
	General Use	Voice 25KHz	637-640	772.987500	802.987500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	797-800	773.987500	803.987500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Levy	General Use	Voice 25KHz	45-48	769.287500	799.287500	
	General Use	Voice 25KHz	213-216	770.337500	800.337500	
	General Use	Voice 25KHz	333-336	771.087500	801.087500	
	General Use	Voice 25KHz	401-404	771.512500	801.512500	

	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	497-500	772.112500	802.112500	
	General Use	Voice 25KHz	537-540	772.362500	802.362500	
	General Use	Voice 25KHz	597-600	772.737500	802.737500	
	General Use	Voice 25KHz	665-668	773.162500	803.162500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
Liberty	General Use	Voice 25KHz	89-92	769.562500	799.562500	
	General Use	Voice 25KHz	169-172	770.062500	800.062500	
	General Use	Voice 25KHz	397-400	771.487500	801.487500	
	General Use	Voice 25KHz	513-516	772.212500	802.212500	
	General Use	Voice 25KHz	585-588	772.662500	802.662500	
Madison	General Use	Voice 25KHz	289-292	770.812500	800.812500	
	General Use	Voice 25KHz	333-336	771.087500	801.087500	
	General Use	Voice 25KHz	421-424	771.637500	801.637500	
	General Use	Voice 25KHz	481-484	772.012500	802.012500	
	General Use	Voice 25KHz	613-616	772.837500	802.837500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	873-876	774.462500	804.462500	
	General Use	Voice 25KHz	913-916	774.712500	804.712500	
Manatee	General Use	Voice 25KHz	53-56	769.337500	799.337500	
	General Use	Voice 25KHz	329-332	771.062500	801.062500	
	General Use	Voice 25KHz	381-384	771.387500	801.387500	
	General Use	Voice 25KHz	425-428	771.662500	801.662500	

	General Use	Voice 25KHz	465-468	771.912500	801.912500	
	General Use	Voice 25KHz	509-512	772.187500	802.187500	
	General Use	Voice 25KHz	593-596	772.712500	802.712500	
	General Use	Voice 25KHz	637-640	772.987500	802.987500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
Marion	General Use	Voice 25KHz	17-20	769.112500	799.112500	
	General Use	Voice 25KHz	81-84	769.512500	799.512500	
	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	201-204	770.262500	800.262500	
	General Use	Voice 25KHz	289-292	770.812500	800.812500	
	General Use	Voice 25KHz	341-344	771.137500	801.137500	
	General Use	Voice 25KHz	381-384	771.387500	801.387500	
	General Use	Voice 25KHz	425-428	771.662500	801.662500	
	General Use	Voice 25KHz	465-468	771.912500	801.912500	
	General Use	Voice 25KHz	509-512	772.187500	802.187500	
	General Use	Voice 25KHz	565-568	772.537500	802.537500	
	General Use	Voice 25KHz	637-640	772.987500	802.987500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	861-864	774.387500	804.387500	
	General Use	Voice 25KHz	901-904	774.637500	804.637500	
	General Use	Voice 25KHz	941-944	774.887500	804.887500	

Martin	General Use	Voice 25KHz	45-48	769.287500	799.287500	
	General Use	Voice 25KHz	89-92	769.562500	799.562500	
	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	201-204	770.262500	800.262500	
	General Use	Voice 25KHz	245-248	770.537500	800.537500	
	General Use	Voice 25KHz	289-292	770.812500	800.812500	
	General Use	Voice 25KHz	333-336	771.087500	801.087500	
	General Use	Voice 25KHz	413-416	771.587500	801.587500	
	General Use	Voice 25KHz	453-456	771.837500	801.837500	
	General Use	Voice 25KHz	517-520	772.237500	802.237500	
	General Use	Voice 25KHz	557-560	772.487500	802.487500	
	General Use	Voice 25KHz	633-636	772.962500	802.962500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
Monroe	General Use	Voice 25KHz	85-88	769.537500	799.537500	
	General Use	Voice 25KHz	125-128	769.787500	799.787500	
	General Use	Voice 25KHz	165-168	770.037500	800.037500	
	General Use	Voice 25KHz	209-212	770.312500	800.312500	
	General Use	Voice 25KHz	285-288	770.787500	800.787500	
	General Use	Voice 25KHz	325-328	771.037500	801.037500	
	General Use	Voice 25KHz	365-368	771.287500	801.287500	
	General Use	Voice 25KHz	405-408	771.537500	801.537500	

	General Use	Voice 25KHz	445-448	771.787500	801.787500	
	General Use	Voice 25KHz	489-492	772.062500	802.062500	
	General Use	Voice 25KHz	537-540	772.362500	802.362500	
	General Use	Voice 25KHz	581-584	772.637500	802.637500	
	General Use	Voice 25KHz	629-632	772.937500	802.937500	
	General Use	Voice 25KHz	705-708	773.412500	803.412500	
	General Use	Voice 25KHz	753-756	773.712500	803.712500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
Nassau	General Use	Voice 25KHz	165-168	770.037500	800.037500	
	General Use	Voice 25KHz	253-256	770.587500	800.587500	
	General Use	Voice 25KHz	353-356	771.212500	801.212500	
	General Use	Voice 25KHz	393-396	771.462500	801.462500	
	General Use	Voice 25KHz	445-448	771.787500	801.787500	
	General Use	Voice 25KHz	509-512	772.187500	802.187500	
	General Use	Voice 25KHz	577-580	772.612500	802.612500	
	General Use	Voice 25KHz	625-628	772.912500	802.912500	
	General Use	Voice 25KHz	709-712	773.437500	803.437500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	861-864	774.387500	804.387500	
Okaloosa	General Use	Voice 25KHz	17-20	769.112500	799.112500	
	General Use	Voice 25KHz	93-96	769.587500	799.587500	
	General Use	Voice 25KHz	137-140	769.862500	794.862500	

	General Use	Voice 25KHz	201-204	770.262500	800.262500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	349-352	771.187500	801.187500	
	General Use	Voice 25KHz	397-400	771.487500	801.487500	
	General Use	Voice 25KHz	441-444	771.762500	801.762500	
	General Use	Voice 25KHz	497-500	772.112500	802.112500	
	General Use	Voice 25KHz	545-548	772.412500	802.412500	
	General Use	Voice 25KHz	589-592	772.687500	802.687500	
	General Use	Voice 25KHz	637-640	772.987500	802.987500	
	General Use	Voice 25KHz	709-712	773.437500	803.437500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
	General Use	Voice 25KHz	917-920	774.737500	804.737500	
Okeechobee	General Use	Voice 25KHz	373-376	771.337500	801.337500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	573-576	772.587500	802.587500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
Orange	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	53-56	769.337500	799.337500	

	General Use	Voice 25KHz	121-124	769.762500	799.762500	
	General Use	Voice 25KHz	165-168	770.037500	800.037500	
	General Use	Voice 25KHz	217-220	770.362500	800.362500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	365-368	771.287500	801.287500	
	General Use	Voice 25KHz	421-424	771.637500	801.637500	
	General Use	Voice 25KHz	473-476	771.962500	801.962500	
	General Use	Voice 25KHz	497-500	772.112500	802.112500	
	General Use	Voice 25KHz	541-544	772.387500	802.387500	
	General Use	Voice 25KHz	581-584	772.637500	802.637500	
	General Use	Voice 25KHz	621-624	772.887500	802.887500	
	General Use	Voice 25KHz	673-676	773.212500	803.212500	
	General Use	Voice 25KHz	749-752	773.687500	803.687500	
	General Use	Voice 25KHz	789-792	773.937500	803.937500	
	General Use	Voice 25KHz	829-832	774.187500	804.187500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Osceola	General Use	Voice 25KHz	81-84	769.512500	799.512500	
	General Use	Voice 25KHz	341-344	771.137500	801.137500	
	General Use	Voice 25KHz	389-392	771.437500	801.437500	
	General Use	Voice 25KHz	433-436	771.712500	801.712500	
	General Use	Voice 25KHz	525-528	772.287500	802.287500	

	General Use	Voice 25KHz	593-596	772.712500	802.712500	
	General Use	Voice 25KHz	637-640	772.987500	802.987500	
	General Use	Voice 25KHz	713-716	773.462500	803.462500	
Palm Beach	General Use	Voice 25KHz	17-20	769.112500	799.112500	
	General Use	Voice 25KHz	81-84	769.512500	799.512500	
	General Use	Voice 25KHz	121-124	769.762500	799.762500	
	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	213-216	771.337500	801.337500	
	General Use	Voice 25KHz	281-284	770.762500	800.762500	
	General Use	Voice 25KHz	341-344	771.137500	801.137500	
	General Use	Voice 25KHz	381-384	771.387500	801.387500	
	General Use	Voice 25KHz	433-436	771.712500	801.712500	
	General Use	Voice 25KHz	473-476	771.962500	801.962500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	525-528	772.287500	802.287500	
	General Use	Voice 25KHz	565-568	772.537500	802.537500	
	General Use	Voice 25KHz	609-612	772.812500	802.812500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	
	General Use	Voice 25KHz	749-752	773.687500	803.687500	
	General Use	Voice 25KHz	789-792	773.937500	803.937500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
	General Use	Voice 25KHz	917-920	774.737500	804.737500	

Pasco	General Use	Voice 25KHz	57-60	769.362500	799.362500	
	General Use	Voice 25KHz	345-348	771.162500	801.162500	
	General Use	Voice 25KHz	385-388	771.412500	801.412500	
	General Use	Voice 25KHz	429-432	771.687500	801.687500	
	General Use	Voice 25KHz	469-472	771.937500	801.937500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	537-540	772.362500	802.362500	
	General Use	Voice 25KHz	577-580	772.612500	802.612500	
	General Use	Voice 25KHz	633-636	772.962500	802.962500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	909-912	774.687500	804.687500	
Pinellas	General Use	Voice 25KHz	17-20	769.112500	799.112500	
	General Use	Voice 25KHz	81-84	769.512500	799.512500	
	General Use	Voice 25KHz	121-124	769.762500	799.762500	
	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	241-244	770.512500	800.512500	
	General Use	Voice 25KHz	285-288	770.787500	800.787500	
	General Use	Voice 25KHz	337-340	771.112500	801.112500	
	General Use	Voice 25KHz	409-412	776.562500	806.562500	
	General Use	Voice 25KHz	453-456	776.837500	806.837500	
	General Use	Voice 25KHz	481-484	777.012500	807.012500	
	General Use	Voice 25KHz	545-548	777.412500	807.412500	
	General Use	Voice 25KHz	617-620	777.862500	807.862500	

	General Use	Voice 25KHz	669-672	772.187500	802.187500	
	General Use	Voice 25KHz	709-712	772.437500	802.437500	
	General Use	Voice 25KHz	749-752	772.687500	802.687500	
	General Use	Voice 25KHz	789-792	772.937500	802.937500	
	General Use	Voice 25KHz	829-832	773.187500	803.187500	
	General Use	Voice 25KHz	877-880	773.487500	803.487500	
Polk	General Use	Voice 25KHz	97-100	774.612500	804.612500	
	General Use	Voice 25KHz	137-140	774.862500	804.862500	
	General Use	Voice 25KHz	201-204	775.262500	805.262500	
	General Use	Voice 25KHz	245-248	775.537500	805.537500	
	General Use	Voice 25KHz	289-292	775.812500	805.812500	
	General Use	Voice 25KHz	357-360	776.237500	806.237500	
	General Use	Voice 25KHz	401-404	776.512500	806.512500	
	General Use	Voice 25KHz	457-460	776.862500	806.862500	
	General Use	Voice 25KHz	517-520	777.237500	807.237500	
	General Use	Voice 25KHz	565-568	772.537500	802.537500	
	General Use	Voice 25KHz	609-612	772.812500	802.812500	
	General Use	Voice 25KHz	661-664	773.137500	803.137500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	
	General Use	Voice 25KHz	781-784	773.887500	803.887500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
	General Use	Voice 25KHz	873-876	774.462500	804.462500	
	General Use	Voice 25KHz	917-920	774.737500	804.737500	

Putnam	General Use	Voice 25KHz	89-92	769.562500	799.562500	
	General Use	Voice 25KHz	217-220	770.362500	800.362500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	397-400	771.487500	801.487500	
	General Use	Voice 25KHz	501-504	772.137500	802.137500	
	General Use	Voice 25KHz	541-544	772.387500	802.387500	
	General Use	Voice 25KHz	581-584	772.637500	802.637500	
	General Use	Voice 25KHz	621-624	772.887500	802.887500	
	General Use	Voice 25KHz	713-716	773.462500	803.462500	
Santa Rosa	General Use	Voice 25KHz	57-60	769.362500	799.362500	
	General Use	Voice 25KHz	173-176	770.087500	800.087500	
	General Use	Voice 25KHz	217-220	770.362500	800.362500	
	General Use	Voice 25KHz	337-340	771.112500	801.112500	
	General Use	Voice 25KHz	377-380	771.362500	801.362500	
	General Use	Voice 25KHz	425-428	771.662500	801.662500	
	General Use	Voice 25KHz	465-468	771.912500	801.912500	
	General Use	Voice 25KHz	505-508	772.162500	802.162500	
	General Use	Voice 25KHz	553-556	772.462500	802.462500	
	General Use	Voice 25KHz	597-600	772.737500	802.737500	
	General Use	Voice 25KHz	661-664	773.137500	803.137500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	909-912	774.687500	804.687500	

Sarasota	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	85-88	769.537500	799.537500	
	General Use	Voice 25KHz	125-128	769.787500	799.787500	
	General Use	Voice 25KHz	169-172	770.062500	800.062500	
	General Use	Voice 25KHz	209-212	770.312500	800.312500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	293-296	770.837500	800.837500	
	General Use	Voice 25KHz	345-348	771.162500	801.162500	
	General Use	Voice 25KHz	397-400	771.487500	801.487500	
	General Use	Voice 25KHz	473-476	771.962500	801.962500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	537-540	772.362500	802.362500	
	General Use	Voice 25KHz	585-588	772.662500	802.662500	
	General Use	Voice 25KHz	629-632	772.937500	802.937500	
	General Use	Voice 25KHz	673-676	773.212500	803.212500	
	General Use	Voice 25KHz	713-716	773.462500	803.462500	
	General Use	Voice 25KHz	785-788	773.912500	803.912500	
	General Use	Voice 25KHz	825-828	774.162500	804.162500	
	General Use	Voice 25KHz	869-872	774.437500	804.437500	
	General Use	Voice 25KHz	913-916	774.712500	804.712500	
Seminole	General Use	Voice 25KHz	85-88	769.537500	799.537500	
	General Use	Voice 25KHz	129-132	769.812500	799.812500	
	General Use	Voice 25KHz	349-352	771.187500	801.187500	

	General Use	Voice 25KHz	393-396	771.462500	801.462500	
	General Use	Voice 25KHz	437-440	771.737500	801.737500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	589-592	772.687500	802.687500	
	General Use	Voice 25KHz	629-632	772.937500	802.937500	
	General Use	Voice 25KHz	717-720	773.487500	803.487500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
St. Johns	General Use	Voice 25KHz	53-56	769.337500	799.337500	
	General Use	Voice 25KHz	133-136	769.837500	799.837500	
	General Use	Voice 25KHz	249-252	770.562500	800.562500	
	General Use	Voice 25KHz	345-348	771.162500	801.162500	
	General Use	Voice 25KHz	405-408	771.537500	801.537500	
	General Use	Voice 25KHz	461-464	771.887500	801.887500	
	General Use	Voice 25KHz	513-516	772.212500	802.212500	
	General Use	Voice 25KHz	569-572	772.562500	802.562500	
	General Use	Voice 25KHz	673-676	773.212500	803.212500	
	General Use	Voice 25KHz	825-828	774.162500	804.162500	
	General Use	Voice 25KHz	865-868	774.412500	804.412500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
St. Lucie	General Use	Voice 25KHz	13-16	769.087500	799.087500	
	General Use	Voice 25KHz	53-56	769.337500	799.337500	
	General Use	Voice 25KHz	125-128	769.787500	799.787500	
	General Use	Voice 25KHz	165-168	770.037500	800.037500	

	General Use	Voice 25KHz	209-212	770.312500	800.312500	
	General Use	Voice 25KHz	257-260	770.612500	800.612500	
	General Use	Voice 25KHz	297-300	770.862500	800.862500	
	General Use	Voice 25KHz	345-348	771.162500	801.162500	
	General Use	Voice 25KHz	397-400	771.487500	801.487500	
	General Use	Voice 25KHz	437-440	771.737500	801.737500	
	General Use	Voice 25KHz	477-480	771.987500	801.987500	
	General Use	Voice 25KHz	509-512	772.187500	802.187500	
	General Use	Voice 25KHz	549-552	772.437500	802.437500	
	General Use	Voice 25KHz	601-604	772.762500	802.762500	
	General Use	Voice 25KHz	705-708	773.412500	803.412500	
	General Use	Voice 25KHz	753-756	773.712500	803.712500	
	General Use	Voice 25KHz	793-796	773.962500	803.962500	
	General Use	Voice 25KHz	833-836	774.212500	804.212500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Sumter	General Use	Voice 25KHz	49-52	769.312500	799.312500	
	General Use	Voice 25KHz	417-420	771.612500	801.612500	
	General Use	Voice 25KHz	545-548	772.412500	802.412500	
	General Use	Voice 25KHz	585-588	772.662500	802.662500	
	General Use	Voice 25KHz	669-672	773.187500	803.187500	
	General Use	Voice 25KHz	709-712	773.437500	803.437500	
Suwannee	General Use	Voice 25KHz	17-20	769.112500	799.112500	

	General Use	Voice 25KHz	81-84	769.512500	799.512500	
	General Use	Voice 25KHz	161-164	770.012500	800.012500	
	General Use	Voice 25KHz	341-344	771.137500	801.137500	
	General Use	Voice 25KHz	397-400	771.487500	801.487500	
	General Use	Voice 25KHz	453-456	771.837500	801.837500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	533-536	772.337500	802.337500	
	General Use	Voice 25KHz	593-596	772.712500	802.712500	
	General Use	Voice 25KHz	633-636	772.962500	802.962500	
	General Use	Voice 25KHz	745-748	773.662500	803.662500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	905-908	774.662500	804.662500	
	General Use	Voice 25KHz	945-948	774.912500	804.912500	
Taylor	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	205-208	770.287500	800.287500	
	General Use	Voice 25KHz	245-248	770.537500	800.537500	
	General Use	Voice 25KHz	365-368	771.287500	801.287500	
	General Use	Voice 25KHz	409-412	771.562500	801.562500	
	General Use	Voice 25KHz	509-512	772.187500	802.187500	
	General Use	Voice 25KHz	577-580	772.612500	802.612500	
	General Use	Voice 25KHz	673-676	773.212500	803.212500	
	General Use	Voice 25KHz	713-716	773.462500	803.462500	
	General Use	Voice 25KHz	753-756	773.712500	803.712500	

	General Use	Voice 25KHz	793-796	773.962500	803.962500	
	General Use	Voice 25KHz	861-864	774.387500	804.387500	
Union	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	349-352	771.187500	801.187500	
	General Use	Voice 25KHz	389-392	771.437500	801.437500	
	General Use	Voice 25KHz	457-460	771.862500	801.862500	
	General Use	Voice 25KHz	573-576	772.587500	802.587500	
Volusia	General Use	Voice 25KHz	137-140	769.862500	799.862500	
	General Use	Voice 25KHz	177-180	770.112500	800.112500	
	General Use	Voice 25KHz	245-248	770.537500	800.537500	
	General Use	Voice 25KHz	321-324	771.012500	801.012500	
	General Use	Voice 25KHz	373-376	771.337500	801.337500	
	General Use	Voice 25KHz	413-416	771.587500	801.587500	
	General Use	Voice 25KHz	453-456	771.837500	801.837500	
	General Use	Voice 25KHz	521-524	772.262500	802.262500	
	General Use	Voice 25KHz	573-576	772.587500	802.587500	
	General Use	Voice 25KHz	613-616	772.837500	802.837500	
	General Use	Voice 25KHz	701-704	773.387500	803.387500	
	General Use	Voice 25KHz	757-760	773.737500	803.737500	
	General Use	Voice 25KHz	821-824	774.137500	804.137500	
	General Use	Voice 25KHz	917-920	774.737500	804.737500	
Wakulla	General Use	Voice 25KHz	97-100	769.612500	799.612500	
	General Use	Voice 25KHz	177-180	770.112500	800.112500	

	General Use	Voice 25KHz	281-284	770.762500	800.762500	
	General Use	Voice 25KHz	353-356	771.212500	801.212500	
	General Use	Voice 25KHz	433-436	771.712500	801.712500	
	General Use	Voice 25KHz	493-496	772.087500	802.087500	
	General Use	Voice 25KHz	541-544	772.387500	802.387500	
	General Use	Voice 25KHz	601-604	772.762500	802.762500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
	General Use	Voice 25KHz	829-832	774.187500	804.187500	
Walton	General Use	Voice 25KHz	53-56	769.337500	799.337500	
	General Use	Voice 25KHz	129-132	769.812500	799.812500	
	General Use	Voice 25KHz	245-248	770.537500	800.537500	
	General Use	Voice 25KHz	361-364	771.262500	801.262500	
	General Use	Voice 25KHz	421-424	771.637500	801.637500	
	General Use	Voice 25KHz	473-476	771.962500	801.962500	
	General Use	Voice 25KHz	485-488	772.037500	802.037500	
	General Use	Voice 25KHz	561-564	772.512500	802.512500	
	General Use	Voice 25KHz	609-612	772.812500	802.812500	
	General Use	Voice 25KHz	741-744	773.637500	803.637500	
	General Use	Voice 25KHz	837-840	774.237500	804.237500	
	General Use	Voice 25KHz	877-880	774.487500	804.487500	
Washington	General Use	Voice 25KHz	173-176	770.087500	800.087500	
	General Use	Voice 25KHz	293-296	770.837500	800.837500	
	General Use	Voice 25KHz	341-344	771.137500	801.137500	

	General Use	Voice 25KHz	409-412	771.562500	801.562500	
	General Use	Voice 25KHz	569-572	772.562500	802.562500	
	General Use	Voice 25KHz	677-680	773.237500	803.237500	
	General Use	Voice 25KHz	789-792	773.937500	803.937500	
	General Use	Voice 25KHz	829-832	774.187500	804.187500	

FCC Approved Channels for Interoperable/Deployable Trunked Radio Systems:

Channel 37-38	769.23125
Channel 61.62	769.38125
Channel 117-118	769.73125
Channel 141-142	769.88125
Channel 883-884	774.51875 Primary Control Channel
Channel 939-940	774.86875 Alternate Control Channel

Appendix G-700 MHz Florida SIEC Plan

The State of Florida 700 MHz Public Safety Interoperability Channel Plan is available on the WEB at: http://www.dms.myflorida.com/content/download/72526/432829/700_IO_Plan_Final_V3_05_-_First_Edition_w-DMS_wrap.pdf

Appendix H – 700 MHz Interoperability/Channel Nomenclature

Table of 700 MHz Interoperability Channels

For Specific Uses/Services
*** - Mandatory**

16 CHANNEL SETS	DESCRIPTION	LABEL
Channel 23 & 24	*General Public Safety Services (secondary trunked)*	*7TAC58*
Channel 103 & 104	*General Public Safety Services (secondary trunked)*	*7TAC62*
Channel 183 & 184	*General Public Safety Services (secondary trunked)*	*7TAC66*
Channel 263 & 264	*General Public Safety Services (secondary trunked)*	*7TAC70*
Channel 39 &40	Calling Channel *	7CAL59
Channel 119 & 120	General Public Safety Service *	7TAC63
Channel 199 & 200	General Public Safety Service	7TAC67
Channel 279 & 280	Mobile Data	7DAT71
Channel 63 & 64	Emergency Medical Service	7EMS60
Channel 143 & 144	Fire Service	7FIR64
Channel 223 & 224	Law Enforcement Service	7LAW68
Channel 303 & 304	Mobile Repeater *	7MOB68
Channel 79 & 80	Emergency Medical Service	7EMS61
Channel 159 & 160	Fire Service	7FIR65
Channel 239 & 240	Law Enforcement Service	7LAW69
Channel 319 & 320	Other Public Service *	7TAC73
Channel 657 & 658	*General Public Safety Services (secondary trunked)*	*7TAC74*
Channel 737 & 738	*General Public Safety Services (secondary trunked)*	*7TAC78*
Channel 817 & 818	*General Public Safety Services (secondary trunked)*	*7TAC82*
Channel 897 & 898	*General Public Safety Services (secondary trunked)*	*7TAC86*
Channel 681 & 682	Calling Channel *	7CAL75
Channel 761 & 762	General Public Safety Service *	7TAC79
Channel 841 & 842	General Public Safety Service	7TAC83
Channel 921 & 922	Mobile Data	7DAT87
Channel 641 & 642	Emergency Medical Service	7EMS76
Channel 721 & 742	Fire Service	7FIR80
Channel 801 & 802	Law Enforcement Service	7LAW84
Channel 881 & 882	Mobile Repeater *	7MOB88
Channel 697 & 698	Emergency Medical Service	7EMS77
Channel 777 & 778	Fire Services	7FIR81
Channel 857 & 858	Law Enforcement Service	7LAW85
Channel 937 & 938	Other Public Services*	7TAC89

Project 25 Common Air Interface
Interoperability Channel Technical Parameters

Certain common P25 parameters need to be defined to ensure digital radios operating on the 700 MHz Interoperability Channels can communicate. This is analogous to defining the common CTCSS tone used on NPSPAC analog Interoperability channels.

Network Access Code

In the Project 25 Common Air Interface definition, the Network Access Code (NAC) is analogous to the use of CTCSS and CDCSS signals in analog radio systems. It is a code transmitted in the pre-amble of the P25 signal and repeated periodically throughout the transmission. Its purpose is to provide selective access to and maintain access to a receiver. It is also used to block nuisance and other co-channel signals. There are up to 4096 of these NAC codes. For ease of migration in other frequency bands, a NAC code table was developed which shows a mapping of CTCSS and CDCSS signals into corresponding NAC codes. Document TIA/EIA TSB102.BAAC contains NAC code table and other Project 25 Common Air Interface Reserve Values.

The use of NAC code $293 is required for the 700 MHz Interoperability Channel NAC code.

Talk group ID

In the Project 25 Common Air Interface definition, the Talk group ID on conventional channels is analogous to the use of talk groups in trunking. In order to ensure that all users can communicate, all units should use a common Talk group ID.

Recommendation: Use P25 default value for Talk group ID = $0001

Manufacturer's ID

The Project 25 Common Air Interface allows the ability to define manufacturer specific functions. In order to ensure that all users can communicate, all units should not use a specific Manufacturer's ID, but should use the default value of $00.

Message ID

The Project 25 Common Air Interface allows the ability to define specific message functions. In order to ensure that all users can communicate, all units should use the default Message ID for unencrypted messages of $0000000000000000000.

Encryption Algorithm ID and Key ID

The Project 25 Common Air Interface allows the ability to define specific encryption algorithms and encryption keys. In order to ensure that all users can communicate, encryption should not be used on the Interoperability Calling Channels, all units should use the default Algorithm ID for unencrypted messages of $80 and default Key ID for unencrypted messages of $0000. These same defaults may be used for the other Interoperability channels when encryption is not used.

Use of encryption is allowed on the other Interoperability channels. Regional Planning Committees need to define appropriate Message ID, Encryption Algorithm ID, and Encryption Key ID to be used in the encrypted mode on Interoperability channels.

Appendix I – Inter-Regional Coordination Procedures and Resolution of Disputes Template

I. INTRODUCTION

This is a mutually agreed upon Inter-Regional Coordination Procedures Agreement (Agreement) by and between the following 700 MHz Regional Planning Committees, Region 9, Region 1, Region 23 and Region 10.

II. INTER-REGIONAL COORDINATION AGREEMENT

1. The following is the specific procedure for Inter-Regional coordination which has been agreed upon by Regions 9, 1, 23 and 10 and which will be used by the Regions to coordinated with adjacent Regional Planning Committees.

i) An application-filing window is opened or the Region announces that it is prepared to begin accepting applications on a first-come/first-served basis.
ii) Applications by eligible entities are accepted.
iii) An application-filing window (if this procedure is being used) is closed after appropriate time interval.
iv) Intra-Regional review and coordination takes place, including a technical review resulting in assignment of channels.
v) After intra-Regional review, a copy of those frequency-specific applications requiring adjacent Region approval, including a definition statement of proposed service area, shall then be forwarded to the adjacent Region(s) for review. This information will be sent to the adjacent Regional chairperson(s) using the CAPRAD database.
vi) The adjacent Region reviews the application. If the application is approved, a letter of concurrence shall be sent, via the CAPRAD database, to the initiating Regional chairperson within thirty (30) calendar days.

_____

If an applicant's proposed service area extends into an adjacent Public Safety Region(s), the affected Region(s) must approve the application. Service area shall normally be defined as the area included within the geographical boundary of the applicant, plus three (3) miles. Other definitions of service area shall be justified with an accompanying *Memorandum of Understanding (MOU)* or other application documentation between agencies, i.e. mutual aid agreements.

III. Dispute Resolution

1. If the adjacent Region(s) cannot approve the request, the adjacent Region shall document the reasons for partial or non-concurrence, and respond within ten (10) calendar days via email. If the applying Region cannot modify the application to satisfy the objections of the adjacent Region then, a working group compromised of representative of the two Regions shall be convened within thirty (30) calendar days to attempt to resolve the dispute. The working group shall then report its findings within thirty (30) calendar days to the Regional chairpersons email (CAPRAD database). Findings may include, but not be limited to:

a. Unconditional concurrence;
b. Conditional concurrence contingent upon modification of Applicant's technical parameters; or
c. Partial or total denial of proposed frequencies due to inability to meet co-channel/adjacent channel interference free protection to existing licenses within the adjacent Region.

2. If the Inter-Regional Working Group cannot resolve the dispute, then the matter shall be forwarded for evaluation to the National Plan Oversight Committee (NPOC), of the National Public Safety Telecommunications Council (NPSTC). Each Region involved in the dispute shall include a detailed explanation of its position, including engineering studies and any other technical information deemed relevant. The NPOC will, within thirty (30) calendar days, report its recommendation(s) to the Regional chairpersons via the CAPRAD database. The NPOC's decision may support either of the disputing Regions or it may develop a proposal that it deems mutually advantageous to each disputing Region.

3. Where adjacent Region concurrence has been secured, and the channel assignments would result in a change to the Region's currently Commission approved channel assignment matrix, then the initiating Region shall file with the Commission a *Petition to Amend* their current Regional plan's frequency matrix, reflecting the new channel assignments, with a copy of the *Petition* sent to the adjacent Regional chairperson(s).

4. Upon Commission issuance of an *Order* adopting the amended channel assignment matrix, the initiating Regional chairperson will send a courtesy copy of the *Order* to the adjacent Regional chairperson(s) and may

then advise the applicant(s) that they may forward their applications to the frequency coordinator for processing and filing with the Commission.

IV. CONCLUSION
IN AGREEMENT HERETO,

Respectfully,

R. H. Carlson, Chairman

Date:__03-07-2014

Appendix J-Simplified 700 MHz Pre-Assignment Rules and Recommendations

Introduction

A process for doing the initial block assignments of 700 MHz channels before details of actual system deployments is required. In this initial phase, there is little actual knowledge of what specific equipment is to be deployed and where the sites will be. As a result, a high level simplified method is proposed to establish guidelines for frequency coordination. When actual systems are deployed, additional details will be known and the system designers will be required to select specific sites and supporting hardware to control interference.

Overview

Assignments will be based on a defined service area of each applicant. For Public Safety entities this will normally be a geographically defined area such as city, county or by a data file consisting of line segments creating a polygon that encloses the defined area.

For co-channel assignments, the **40 dBμ** contour will be allowed to extend beyond the defined service area by 3 to 5 miles, depending on the type of environment, urban, suburban or low density. The interfering co-channel **5 dBμ** will be allowed to touch but not overlap the 40 dBμ contour of the system being evaluated. All contours are (50-50).

For **adjacent and alternate channels, the interfering channels 60 dBμ** will be allowed to touch but not overlap the 40 dBμ contour of the system being evaluated. All contours are (50,50).

Discussion

The FCC limits the maximum field strength to 40 dB relative to 1μV/m (customarily denoted as 40 dBμ). It is assumed that this limitation will be applied similarly to the way it is applied in the 821-824/866/869MHz band. That is, a 40 dBμ field strength can be deployed up to a defined distance from the edge of the service area, based on the size of the service area or type of applicant, i.e. city, county or statewide system.
This is important as the potential for interference from CMRS infrastructure demands that public safety systems have adequate margins for reliability in the presence of interference. The value of 40 μ corresponds to a signal of -92.7 dBm, received by a half-wavelength dipole (λ/2) antenna. The thermal noise floor for a 6.25 kHz receiver would be in the range of -126 dBm, so there is a margin of approximately 33 dB available for "noise limited" reliability. Figure 1 shows show the various interfering sources and how they accumulate to form a composite noise floor that can be used to

determine the "reliability" or probability of achieving the desired performance in the presence of various interfering sources with differing characteristics. Allowing for a 3 dB reduction in the available margin due to CMRS OOBE noise lowers the reliability and/or the channel performance of Public afety systems. TIA TR8 made this allowance during the meetings in Mesa, AZ, January 2001. In addition, there are various channel bandwidths with different performance criteria and unknown adjacent and alternate channel assignments need to be accounted for. The co-channel and adjacent/alternate sources are shown in the right hand side of Figure 1. There would be a single co-channel source, but potentially several adjacent or alternate channel sources involved.

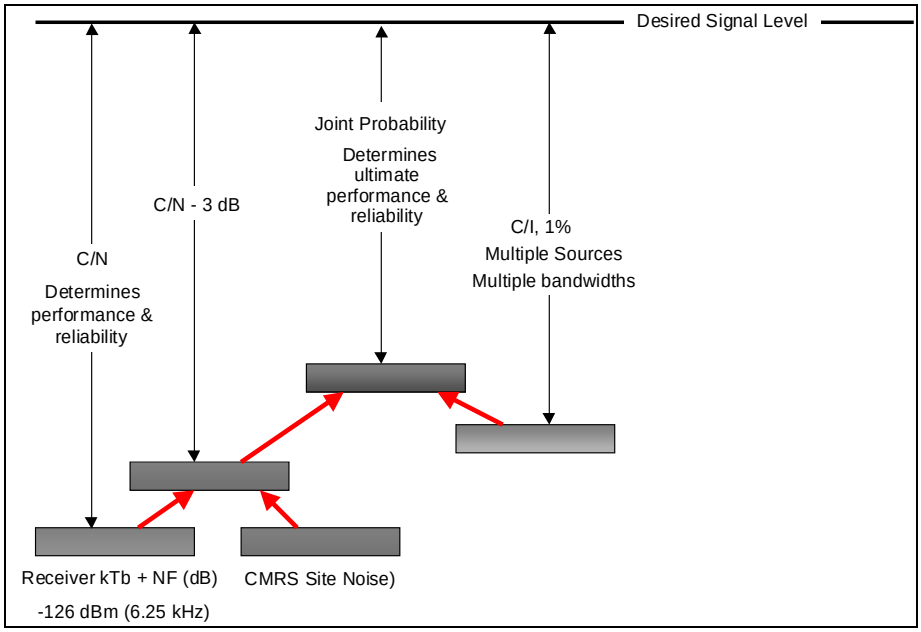


Figure 1 - Interfering Sources Create A "Noise" Level Influencing Reliability

It is recommended that co-channel assignments limit the C/I at the edge (worst case mile) be sufficient to limit that interference to <1%. A C/I ratio of 26.4 dB plus the required capture value required to achieve this goal.[2]. A 17 - 20 dB C/N is required to achieve channel performance. Table 1 shows estimated performance considering the 3 dB noise floor rise at the 40 dBμ signal level. Performance varies due to the different Cf/N requirements of the different modulations and channel bandwidths. These values are appropriate for a mobile on the street, but are considerably short to provide reliable communications to portables inside buildings.

[2] See Appendix A for an explanation of how the 1% interference value is defined and derived.

Comparison of Joint Reliability for various configurations				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver ENBW (kHz)	6	6	9	18
Noise Figure(10 dB)	10	10	10	10
Receiver Noise Floor (dBm)	-126.22	-126.22	-124.46	-121.45
Rise in Noise Floor (dB)	3.00	3.00	3.00	3.00
New Receiver Noise Floor (dB)	-123.22	-123.22	-121.46	-118.45
40 dBu = -92.7 dBm	-92.7	-92.7	-92.7	-92.7
Receiver Capture (dB)	10.0	10.0	10.0	10.0
Noise Margin (dB)	30.52	30.52	28.76	25.75
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
C/N Margin (dB)	**13.52**	**13.52**	**10.76**	**5.75**
Standard deviation (8 dB)	8.0	8.0	8.0	8.0
Z	1.690	1.690	1.345	0.718
Noise Reliability (%)	**95.45%**	**95.45%**	**91.06%**	**76.37%**
C/I for <1% prob of capture	36.4	36.4	36.4	36.4
I (dBu)	3.7	3.7	3.7	3.7
I (dBm)	-129.0	-129.0	-129.0	-129.0
Joint Probability (C & I)	**94.2%**	**94.2%**	**90.4%**	**75.8%**
40 dBu = -92.7 dBm @ 770 MHz				

Table 1 Joint Probability For Project 25, 700 MHz Equipment Configurations.

To analyze the impact of requiring portable in building coverage, several scenarios are presented. The different scenarios involve a given separation from the desired sites. Then the impact of simulcast is included to show that the 40 dBμ must be able to fall outside the edge of the service area. From the analysis, recommendations of how far the 40 dBμ extensions should be allowed to occur are made.

Table 2 Estimates urban coverage where simulcast is required to achieve the desired portable in building coverage. Several assumptions are required to use this estimate.

- Distance from the location to each site. Equal distance is assumed.
- CMRS noise is reduced when entering buildings. This is not a guarantee as the type of deployments is unknown. It is possible that CMRS units may have transmitters inside buildings. This could be potentially a large contributor unless the CMRS OOBE is suppressed to TIA's most recent recommendation and the "site isolation" is maintained at 65 dB minimum.
- The 40 dBμ is allowed to extend beyond the edge of the service area boundary.
- Other configurations may be deployed utilizing additional sites, lower tower heights, lower ERP and shorter site separations.

Estimated Performance at 2.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 2.5 miles (dBm)	-72.7	-72.7	-72.7	-72.7
Margin (dB)	53.50	53.50	51.80	45.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	20	20	20	20
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	85.60%	85.60%	76.58%	39.17%
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 2, Estimated Performance From Site(s) 2.5 Miles From Typical Urban Buildings.

Table 2 shows for the example case of 2.5 miles that simulcast is required to achieve public safety levels of reliability. The difference in performance margin requirements would require more sites and closer site to site separation for wider bandwidth channels.

Figures 2 and 3 show how the configurations would potentially be deployed for a typical site with 240 Watts ERP. This is based on:

- 75 Watt transmitter, 18.75 dBW
- 200 foot tower
- 10 dBd 180 degree sector antenna +10.0 dBd
- 5 dB of cable/filter loss. - 5.0 dB

23.75 dBW ≈ 240 Watts (ERPd)

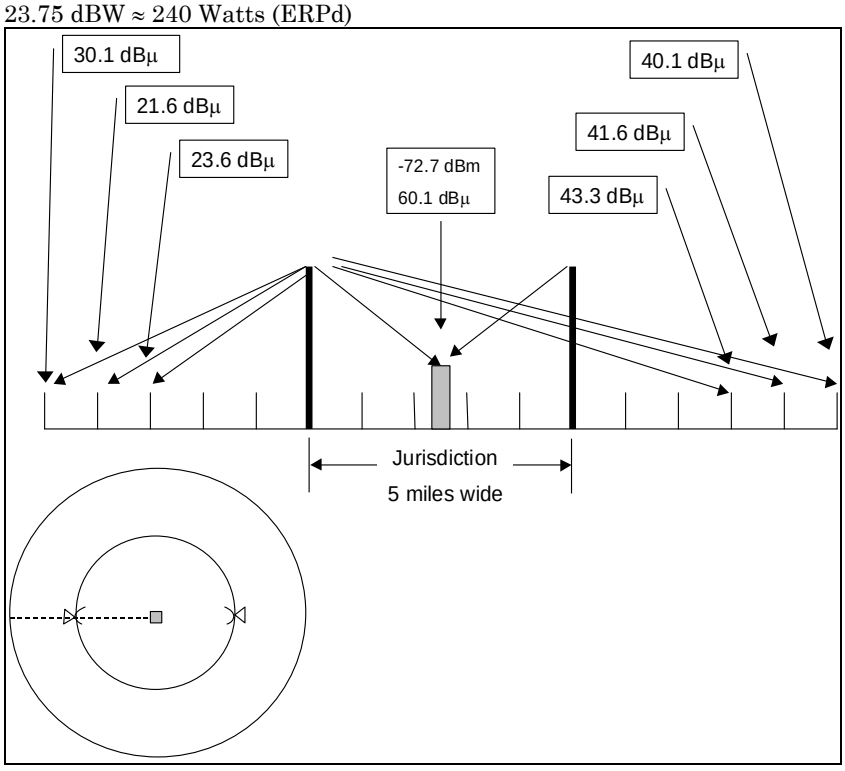


Figure 2 - Field Strength From Left Most Site.

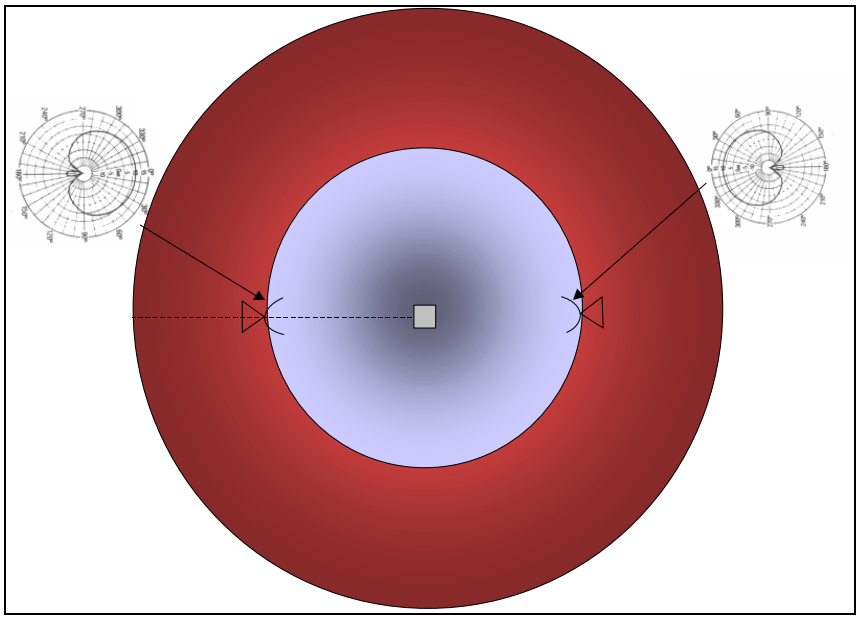


Figure 3 - Antenna Configuration Required To Limit Field Strength Off "Backside"

Figure 2 is for an urbanized area with a jurisdiction of a 5 mile circle. To provide the necessary coverage to portables in buildings at the center of the jurisdiction requires that the sites be placed along the edge of the service area utilizing direction antennas opriented toward the center of the service area (Figure 3). In this case, at 5 miles beyond the edge of the service area, the sites would produce a composite field strength of approximately 40 dBμ. Since one site is over 10 dB dominant, the contribution from the other site is not considered. The control of the field strength behind the site relies on a 20 dB antenna with a Front to Back Ratio (F/B) specification as shown in Figure 3. This performance may be optomistic due to back scatter off local obstructions in urbanized areas. However, use of antennas on the sides of buildings can assist in achieving better F/B ratios and the initial planning is not precise enough to prohibit using the full 20 dB.

The use of a single site at the center of the service area is not normally practical. To provide the necessary signal strength at the edge of the service area would produce a field strength 5 miles beyond in excess of 44 dBμ. However, if the high loss buildings were concentrated at the service area's center, then potentially a single site could be deployed, assuming that the building loss sufficiently decreases near the edge of the service area allowing a reduction in ERP to achieve the desired reliability.

Downtilting of antennas to control the 40 dBμ is not practical as the difference in angular discrimination from a 200 foot tall tower at 2.5 miles and 10 miles is approximately 0.6 degrees.

Tables 3 and 4 represent the same configuration, but for less dense buildings. In these cases, the distance to extend the 40 dBm can be determined from Table Z. Recommendations are made in Table 6.

Estimated Performance at 3.5 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 2.5 miles (dBm)	-77.7	-77.7	-77.7	-77.7
Margin (dB)	48.50	48.50	46.80	40.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	15	15	15	15
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	**85.60%**	**85.60%**	**76.58%**	**39.17%**
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 3 - Lower Loss Buildings, 3.5 Mile From Site(s)

Estimated Performance at 5.0 miles from each site				
Channel Bandwidth	6.25 kHz	12.5 kHz	12.5 kHz	25.0 kHz
Receiver Noise Floor (dBm)	-126.20	-126.20	-124.50	-118.50
Signal at 2.5 miles (dBm)	-82.7	-82.7	-82.7	-82.7
Margin (dB)	43.50	43.50	41.80	35.80
C/N Required for DAQ = 3	17.0	17.0	18.0	20.0
Building Loss (dB)	10	10	10	10
Antenna Loss (dBd)	8	8	8	8
Reliability Margin	8.50	8.50	5.80	-2.20
Z	1.0625	1.0625	0.725	-0.275
Single Site Noise Reliability (%)	**85.60%**	**85.60%**	**76.58%**	**39.17%**
Simulcast with 2 sites	97.93%	97.93%	94.51%	62.99%
Simulcast with 3 sites	99.70%	99.70%	98.71%	77.49%
Simulcast with 4 sites	99.96%	99.96%	99.70%	86.30%

Table 4 - Low Loss Buildings, 5.0 Miles From Site(s)

Note that the receive signals were adjusted to offset the lowered building penetration loss. This produces the same numerical reliability results, but allows increasing the site to building separation and this in turn lowers the magnitude of the "overshoot" across the service area.

Table 5 shows the field strength for a direct path and for a path reduced by a 20 dB F/B antenna. This allows the analysis to be simplified for the specific example being discussed.

Overshoot Distance (mi)	Field Strength (dBμ)	20 dB F/B (dBμ)
1	73.3	53.3
2	63.3	43.3
2.5	60.1	40.1
3	57.5	37.5
4	53.3	33.5
5	50.1	30.1
…	…	
10	40.1	
11	38.4	
12	37.5	
13	36.0	
14	34.5	
15	33.0	

Table 5 - Field Strength Vs. Distance From Site

This allows the overshoot to be 11 miles so the extension of the 40 dBm can be 4 miles for surbanized territory . For the more rural territory, the limit is the signal strength off the back of the antenna. So the result is that for various types of urbanized areas the offset of the 40 dBm should be:

Type of Area	Extension (mi.)
Urban (20 dB Buildings)	5
Suburban (15 dB Buildings)	4
Rural (10 dB Buildings)	3

Table 6 - Recommended Extension Distance Of 40 Dbμ Field Strength

The 40 dBμ can then be constructed based on the defined service area without having to perform an actual prediction. Since the 40 dBμ is beyond the edge of the service area, some relaxation in the level of I is reasonable. Therefore a 35 dB ration is recommended and is consistent with what is currently being licensed in the 821-824/866-869MHz Public Safety band.

Co-Channel Recommendation

- Allow the constructed 40 dBμ (50,50) to extend beyond the edge of the defined service area by the distance indicated in Table 6.
- Allow the Interfering 5 dBμ (50,50) to intercept but not overlap the 40 dBμ contour.

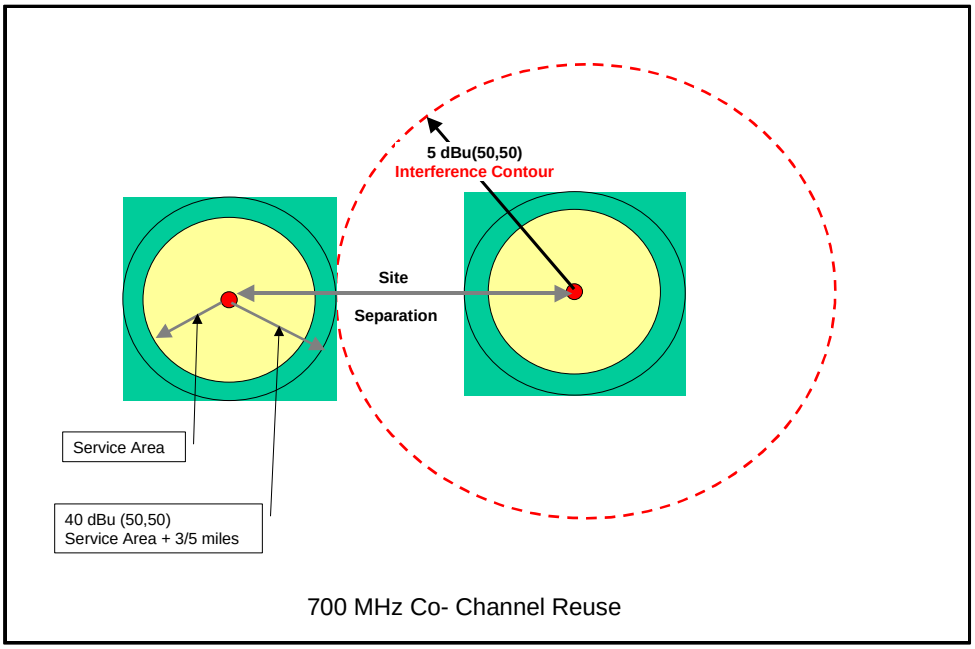


Figure 4 - Co-Channel Reuse Criterion

Adjacent and alternate Channel Considerations

Adjacent and alternate channels are treated as being noise sources that alter the composite noise floor of a victim receiver. Using the 47 CFR § 90.543 values of ACCP can facilitate the coordination of adjacent and alternate channels. The C/I requirements for <1% interference can be reduced by the value of ACCPR. For example to achieve an X dB C/I for the adjacent channel that is -40 dBc a C/I of [X-40] dB is required. Where the alternate channel ACP value is -60 dBc, then the C/I = [X-60] dB is

the goal for assignment(s). There is a compounding of interference energy, as there are numerous sources, i.e. co channel, adjacent channels and alternate channels plus the noise from CMRS OOBE.

There is insufficient information in 47 CFR § 90.543 to include the actual receiver performance. Receivers typically have "skirts" that allow energy outside the bandwidth of interest to be received. In addition, the FCC defines ACCP differently than does the TIA. The term used by the FCC is the same as the TIA definition of ACP. The subtle difference is that ACCP defines the energy intercepted by a defined receiver filter. ACP defines the energy in a measured bandwidth that is typically wider than the receiver. As a result, the FCC values are optimistic at very close spacing and somewhat pessimistic at wider spacings, as the typical receiver filter is less than the channel bandwidth.

In addition, as a channel bandwidth is increased, the total noise is allowed to rise as it is initially defined in a 6.25 kHz channel bandwidth. However, the effect is diminished at very close spacings as the noise is rapidly falling off. At greater spacings, the noise is essentially flat and the receiver's filter limits the noise to the specified 3 dB rise in the thermal noise floor.

Digital receivers tend to be less tolerant to interference than analog. Therefore a 3 dB reduction in the C/(I+N) can reduce a DAQ = 3 to a DAQ = 2 which is threshold to complete receiver muting. Therefore at least 17 dB plus the margin for keeping the interference below 1% probability requires a total margin of 43.4 dB. However, this margin would be at the edge of the service area and the 40 dBμ is allowed to extend past the edge of the service area.

Frequency drift is controlled by the FCC requirement for 0.4-ppm stability when locked. This equates to approximately a 1 dB standard deviation, which is negligible when associated with the recommended initial lognormal standard deviation of 8 dB and can be ignored.

Project 25 requires that a transceiver receiver have an ACIPR of 60 dB. This implies that an ACCPR ≥ 65 dB will exist for a "companion receiver". A companion receiver is one that is designed for the specific modulation. At this time the highest likelihood is that receivers will be deploying the following receiver bandwidths at the following channel bandwidths.

Estimated Receiver Parameters	
Channel Bandwidth	Receiver Bandwidth
6.25 kHz	5.5 kHz
12.5 kHz	5.5 or 9kHz
25 kHz	18.0 kHz

Table 7 - Estimated Receiver Parameters

Based on 47 CFR ¶ 90.543 and the P25 requirement for an ACCPR ≥ 65 dB into a 6.0 kHz channel bandwidth and leaving room for a migration from Phase 1 to Phase 2, allows for making the simplifying assumption that 65 dB ACCPR is available for both adjacent 25 kHz block.

Base initial (presorts) on 25 kHz channels. This provides the maximum flexibility by using 65 dB ACCPR for all but one possible combination of 6.25 kHz channels within the 25 kHz allotment.

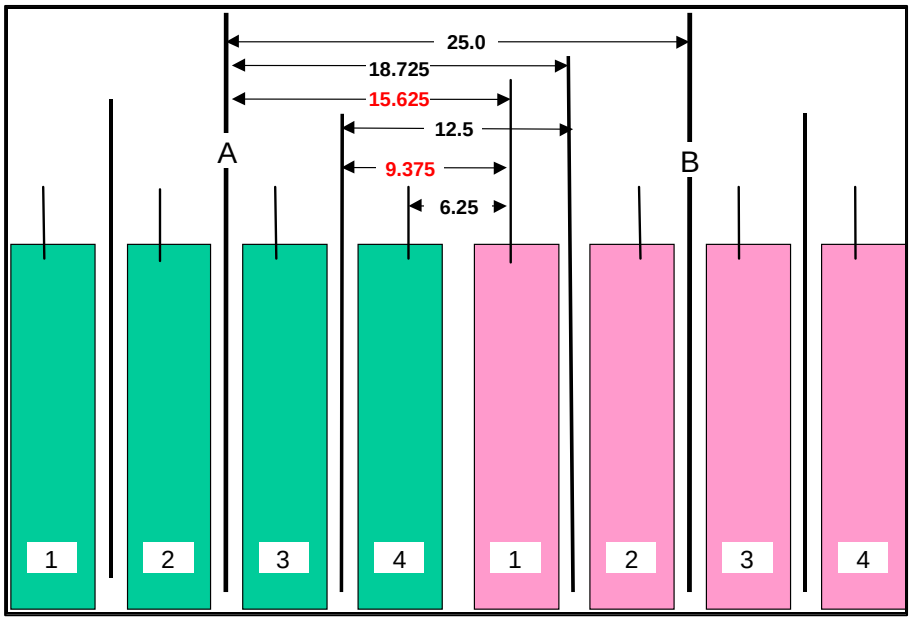


Figure 5, Potential Frequency Separations

Case	ACCPR
25 kHz	65 dB
18.725 kHz	65 dB
15.625 kHz	>40 dB
12.5 kHz	65 dB
9.375 kHz	>40 dB
6.25 kHz	65 dB

Table 8 - ACCPR Values For Potential Frequency Separations
All cases meet or exceed the FCC requirement. The most troublesome cases occur where the wider bandwidths are working against a Phase 2 narrowband 6.25 kHz channel. If system designers keep this consideration in mind and move the edge 6.25 kHz channels inward on their own systems, then a constant value of 65 dB ACCPR can be applied across all 25 kHz channels regardless of what is eventually deployed.

For other blocks, it must be assumed that transmitter filtering in addition to transmitter performance improvements with greater frequency separation will further reduce the ACCPR.

Therefore it is recommended that a consistent value of 65 dB ACCPR be used for coordinating adjacent 25 kHz channel blocks. Rounding to be conservative due to the possibility of multiple sources allows the "I" contour to be approximately 20 dB above the 40 dBμ contour, 60 dBμ.

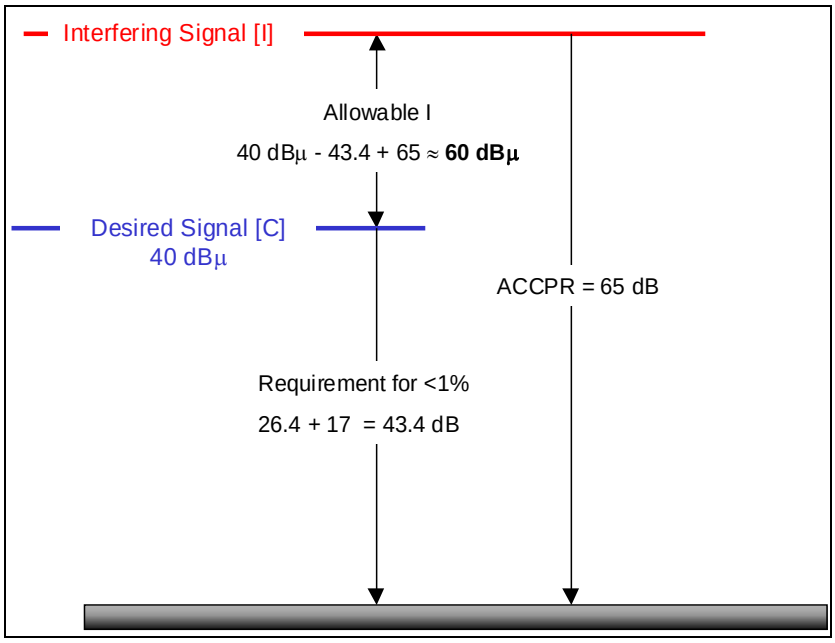


Figure 6 - Adjusted Adjacent 25 kHz Channel Interfering Contour Value

An adjacent Interfering (25 kHz) channel shall be allowed to have its 60 dBμ (50,50) contour touch but not overlap the 40 dBμ (50,50) contour of a system being evaluated. Evaluations should be made in both directions.

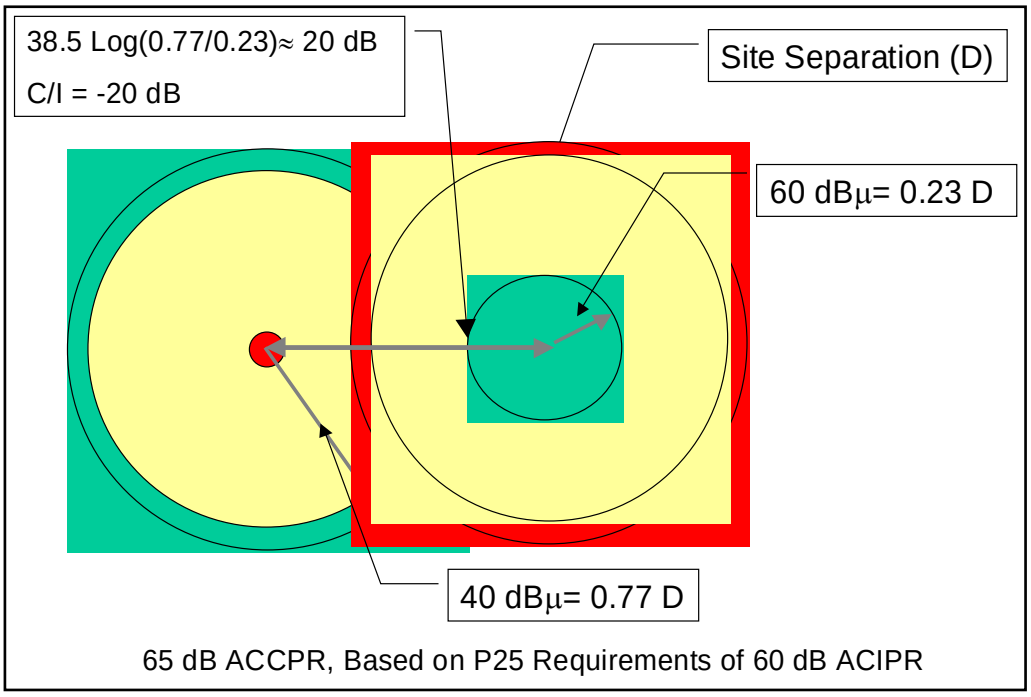


Figure 7 - Example Of Adjacent/Alternate Overlap Criterion

This simple method is only adequate for presorting large blocks to potential entities. A more detailed analysis should be executed in the actual design phase to take all the issues into consideration. Additional factors that should be considered include:

- Degree of Service Area Overlap
- Different size of Service Areas
- Different ERPs and HAATs
- Actual Terrain and Land Usage
- Differing User Reliability Requirements
- Migration from Project 25 Phase 1 to Phase 2
- Actual ACCP
- Balanced Systems
- Mobiles vs. Portables
- Use of voting
- Use of simulcast
- Radio specifications
- Simplex Operation
- Future unidentified requirements.

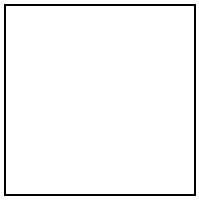
Special attention needs to be paid to the use of simplex operation. In this case, an interferer can be on an offset adjacent channel and in extremely close proximity to the victim receiver. This is especially critical in public safety where simplex operations are frequently used at a fire scene or during police operation. This type operation is also quite common in the lower frequency bands. In those cases, evaluation of base to base as well as mobile to mobile interference should be considered and evaluated.

Carrier to Interference Requirements

There are two different ways that Interference is considered.

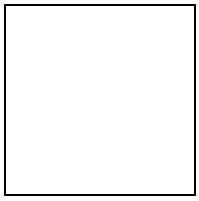
- Co Channel
- Adjacent and Alternate Channels

Both involve using a C/I ratio. The C/I ratio requires a probability be assigned. For example, a 10% Interference is specified, the C/I implies 90% probability of successfully achieving the desired ratio. At 1% interference, means that there is a 99% probability of achieving the desired C/I.



(1)

This can also be written in a form using the standard deviate unit (Z). In this case the Z for the desired probability of achieving the C/I is entered. For example, for a 90% probability of achieving the necessary C/I, $Z = 1.28$.



(2)

The most common requirements for several typical lognormal standard deviations (σ) are included in the following table based on Equation (2).

Location Standard Deviation (σ) dB	5.6	6.5	8	10
Probability %				
10%	10.14 dB	11.77 dB	14.48 dB	18.10 dB
5%	13.07 dB	15.17 dB	18.67 dB	23.33 dB
4%	13.86 dB	16.09dB	19.81 dB	24.76 dB
3%	14.90 dB	17.29dB	21.28 dB	26.20 dB
2%	16.27 dB	18.88 dB	23.24 dB	29.04 dB
1%	18.45 dB	21.42 dB	26.36 dB	32.95 dB

Table A1 - Probability Of Not Achieving C/I For Various Location Lognormal Standard Deviations

These various relationships are shown in Figure A1, a continuous plot of equation(s) 1 and 2.

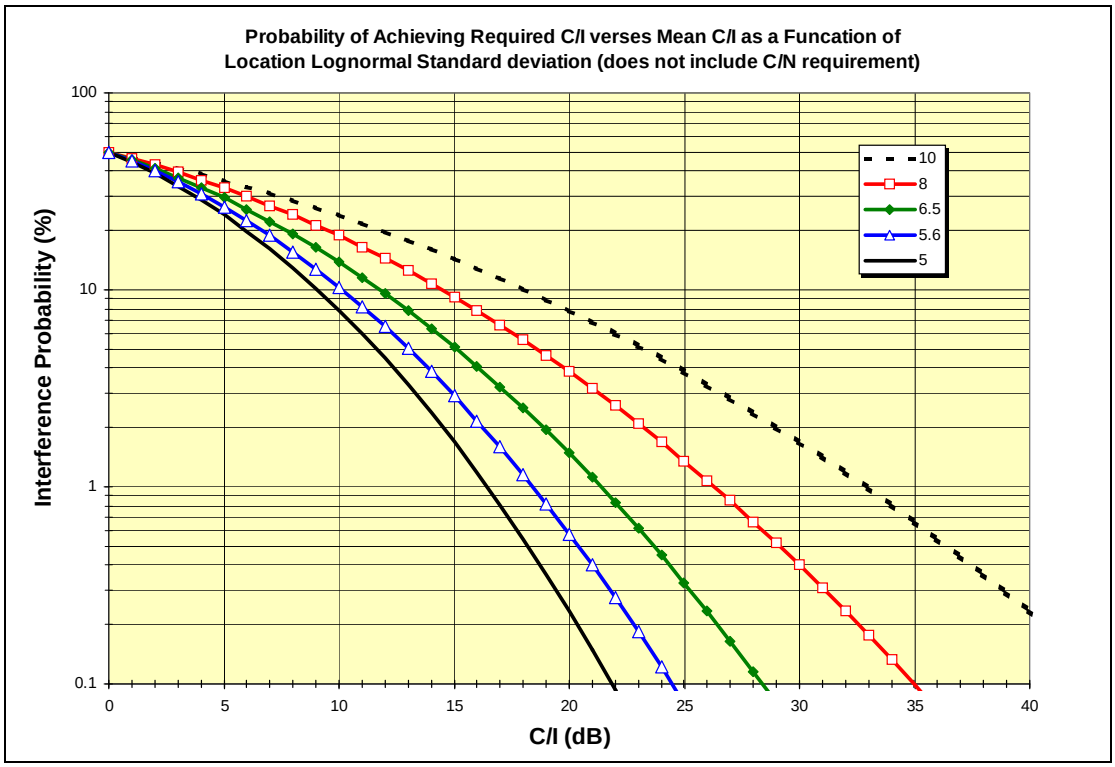


Figure A1, Probability Of Achieving Required C/I As A Function Of Location Standard Deviation

For co-channel the margin needs to include the "capture" requirement. When this is done, then a 1% probability of co channel interference can be rephrased to mean, there is a 99% probability that the "capture ratio" will be achieved. The capture ratio varies with the type of modulation. Older analog equipment has a capture ratio of approximately 7 dB. Project 25 FDMA is specified at 9dB. Figure A1 shows the C/I requirement without including the capture requirement.

The 8 dB value for lognormal location standard deviation is reasonable when little information is available. Later when a detailed design is required, additional details and high-resolution terrain and

land usage databases will allow a lower value to be used. The TIA recommended value is 5.6 dB. This provides the additional flexibility necessary to complete the design

To determine the desired probability that both the C/N and C/I will be achieved requires that a joint probability be determined. Figure A2 shows the effects of a family of various levels of C/N reliability and the joint probability (Y-axis) in the presence of various probabilities of Interference. Note that at 99% reliability with 1% interference (X-axis) that the reduction is nearly the difference. This is because the very high noise reliability is degraded by the interference, as there is little probability that the noise criterion will not be satisfied. At 90%, the 1% interference has a greater likelihood that it will occur simultaneously when the noise criterion not being met, resulting is a less degradation of the 90%

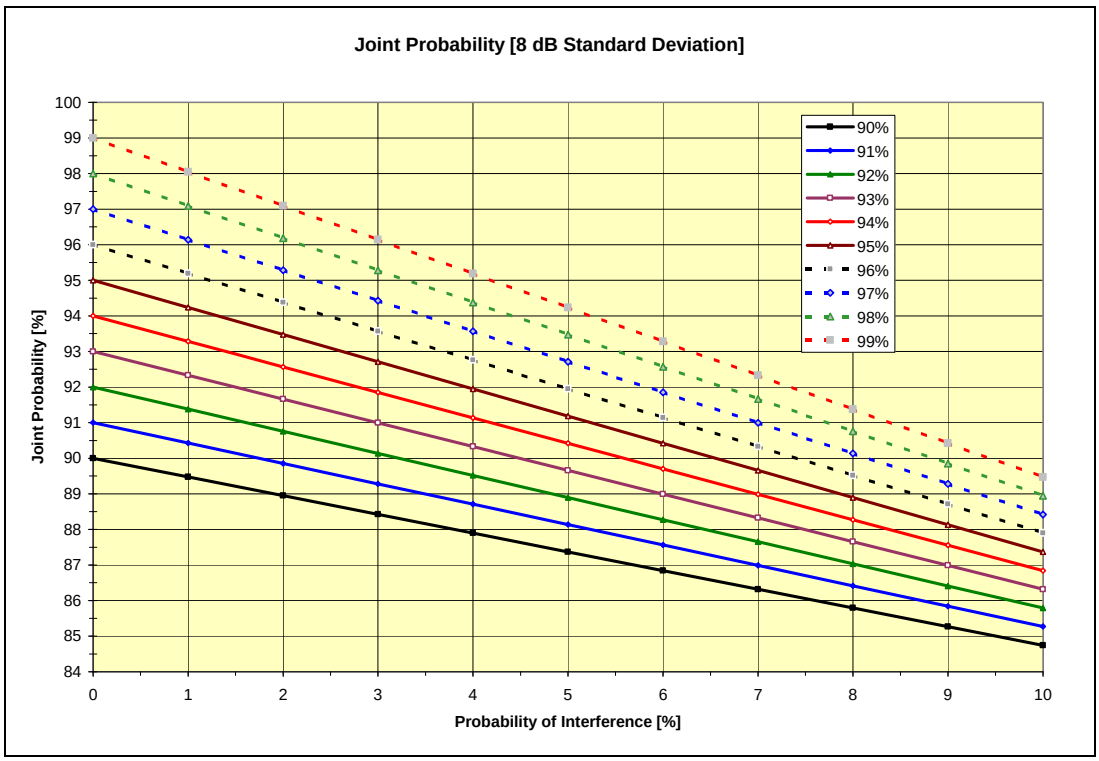


Figure A2 - Effect Of Joint Probability On The Composite Probability

For adjacent and alternate channels, the channel performance requirement must be added to the C/I ratio. When this is applied, then a 1% probability of adjacent/alternate channel interference can be rephrased to mean, there is a 99% probability that the "channel performance ratio" will be achieved.